ROAD SAFETY RESEARCH REPORT

The Impact of the "Under the Limit" Drink Driving Rehabilitation Program on the Lifestyle and Behaviour of Offenders

Prepared by:

Megan Ferguson
Cynthia Schonfeld
Mary Sheehan
Victor Siskind

Centre for Accident Research and Road Safety – Queensland
Queensland University of Technology

Department of Transport and Regional Services
Australian Transport Safety Bureau

The Impact of the "Under the Limit" Drink Driving Rehabilitation Program on the Lifestyle and Behaviour of Offenders

PART OF THE EVALUATION OF THE 'UNDER THE LIMIT'
DRINK DRIVING REHABILITATION PROGRAM

Megan Ferguson, Cynthia Schonfeld, Mary Sheehan, Victor Siskind

Centre for Accident Research and Road Safety – Queensland
Queensland University of Technology

Title and Subtitle

THE IMPACT OF THE "UNDER THE LIMIT" DRINK DRIVING
REHABILITATION PROGRAM ON THE LIFESTYLE AND
BEHAVIOUR OF OFFENDERS

Authors

Ferguson M, Schonfeld C, Sheehan M, Siskind V

Research Organisation

Centre for Accident Research and Road Safety – Queensland
Queensland University of Technology
Beams Road
CARSELDINE QLD 4034

Abstract

This report examines lifestyle and behaviour change among a group of drink driving offenders who undertook the "Under the Limit" (UTL) drink driving rehabilitation program during 1997.   The report complements other reports which examine community change and recidivism as part of the evaluation of the UTL program. Face-to-face interviews were conducted with 125 drink driving offenders at the time of their court appearance and again 9 months later.   The sample consisted of 62 offenders who undertook the UTL program and 63 offenders who acted as a control group.   The interview schedule included measures identified in the literature as potentially contributing to recidivism – socio-demography, mental health status, social support and self-esteem, questions pertaining to knowledge, attitudes and drink driving behaviours, and measures of alcohol problems.   Few differences were found between the UTL and Control groups at the time of their first interview.   However, offenders in the UTL group were found to have significantly more prior drink driving convictions, more accurate knowledge of alcohol-related issues and more willingness to change their alcohol problems than offenders in the control group.   Over time, the UTL program did appear to impact on offenders' intentions to change their driving behaviours to avoid a future drink driving offence, with a subsequent decrease in self-reported drink driving being seen among the UTL group relative to the Control group.

Acknowledgments

Table of Contents

List of Tables

List of Figures

Executive Summary

Rationale for the research

Drink driving remains a major public health issue for industrialised countries. Drink driving rehabilitation programs have been introduced as one method of reducing recidivism among convicted drink drivers. Over the years a range of rehabilitation programs have been introduced with varying aims and methodologies. Evaluations of these programs have also been numerous, but have generally only focused on recidivism as a measure of program effectiveness. In light of the many social and personal problems that are often reported in studies of offenders, obtaining changes in lifestyle factors and alcohol consumption may provide more enduring effectiveness of rehabilitation programs.

The current report aims to examine the effectiveness of the "Under the Limit" (UTL) drink driving rehabilitation program in modifying lifestyle factors and knowledge, attitudes and behaviours associated with drink driving.

The methodology

Face-to-face interviews were conducted on a sample of 125 drink driving offenders at the time of their court appearance and again approximately 9 months later. The total sample consisted of 62 offenders who were undertaking the UTL drink driving program as part of their rehabilitation and 63 offenders who remained within the mainstream sentencing option and acted as a Control group. Participation in the study was voluntary and offenders were paid $25 for each interview for their assistance.

Of the 125 offenders who participated in this study, 24 (19.2%) had previously been convicted of a drink driving offence, with 4 (16.7%) of these offenders being convicted of more than one drink driving offence in the last 5 years. A significant difference was found between the UTL and Control groups for the number of prior drink driving offences ($\chi^2(1) = 5.36$), with 27% of the UTL group (n = 17) and 11% of the Control group (n = 7) having prior drink driving convictions.

The interview schedule used in this study included a range of lifestyle factors that were seen as potentially contributing to recidivism:
- socio-demography
- mental health status
- social support and self-esteem support
- questions pertaining to knowledge, attitudes and drink driving behaviours
- measures of alcohol consumption and alcohol problems.

Socio-demographic characteristics of rural offenders

Offenders who participated in this study were mostly male, single and young. Few were educated beyond a Year 12 standard and many were unemployed and / or

receiving a government pension. Offenders in the UTL group tended to have more prior drink driving convictions than offenders in the Control group and this difference was taken into account in all analyses.

Follow-up of offenders over the nine months showed that the UTL program did not impact on the most of the socio-demographic characteristics of the offenders. There was a significant difference between the UTL and control groups in terms of changes in relationship status, with more of the UTL group showing change.

Mental health and social support

All offenders reported experiencing a high level of mental health and social support at the time of the initial interview, as measured by the Mental Health Inventory, the Social Support Appraisals Scale and the Interpersonal Support Evaluation List. No difference was found between the UTL and Control groups on these measures.

Number of prior drink driving convictions was found to influence the level of support received from friends and others, and also the level of self-esteem support received. Offenders with prior drink driving convictions reported lower levels of social support in all instances.

The UTL program did not increase the level of mental health and social support experienced by offenders, relative to the amount of change seen in the Control group over the course of the study.

Knowledge

At the time of the first interview, offenders in the UTL group showed more accurate knowledge for alcohol and drink driving-related issues. However, over the 9 months between interviews, the knowledge of offenders in the UTL group did not improve to any greater extent compared to the knowledge of offenders in the Control group.

Attitudes

Attitudes toward drink driving were generally in the desired direction with many offenders believing there is no excuse for drink driving. Drink driving behaviours were considered to be common with more than three-quarters of the sample indicating that everybody drinks and drives once in a while.

Some offenders expressed deviant attitudes toward drink driving when they indicated that it was okay to drink and drive so long as you don't get caught. There was also a perception among three-tenths of the sample that the dangers of drink driving are overrated.

Offenders in the UTL group were more likely to believe at the time of their first interview that if they drove while over the limit they would be picked up for a breath test.

While offenders in the UTL group were equally as likely as offenders in the Control group to hold deviant attitudes towards drink driving at the time of the first interview, their attitudes did not improve to any greater extent over the course of the study. This suggests that the UTL program had little effect on the attitudes of this sample of offenders who undertook the program.

Behavioural Intentions

Offenders were asked a series of questions to ascertain what behaviours they would change in the future to avoid another drink driving offence. These behaviours formed two factors – driving behaviours factor and drinking behaviours factor. There was no difference between the UTL group and the Control group for these factors at the time of the initial interview.

Analysis of the driving behaviours factor showed that offenders in the UTL group were more willing to change their driving behaviours to avoid a future drink driving offence by the time of the follow-up interview, than were offenders in the Control group. The UTL program increased the intentions of offenders to change their driving behaviours.

A similar relationship was not found for the drinking behaviours factor with the UTL program having little effect on offenders' intentions to change their drinking habits.

Self-report behaviours

Offenders in both the UTL and Control groups reported drinking alcohol at both high frequencies and in high quantities, especially on Fridays. No difference was found between the two groups in their reported alcohol consumption.

Offenders also reported drink driving at a high rate, and although not significant, offenders in UTL group tended to report a higher rate of drink driving than offenders in the Control group.

Over the course of the study, no change was seen in self-reported alcohol consumption among offenders in the UTL group, relative to the Control group, suggesting that the UTL program did not reduce the level of alcohol consumption reported.

A significant change in self-reported drink driving was seen, with offenders in the UTL group reducing their reported level of drink driving to below that of the Control group. The UTL program did impact on the reported level of drink driving among the offenders who undertook the program.

Risk of alcohol problems and readiness to change

Over 80% of offenders were at moderate-to-high risk of developing alcohol problems according to the AUDIT. There was no difference between the UTL and Control groups in their risk of alcohol problems and alcohol dependence.

However, at the time of the first interview, offenders in the UTL group scored higher on the Readiness to Change Scale indicating a greater willingness among these offenders to take action to change their drinking problem.

The UTL program, however, did not appear to decrease the risk of alcohol problems or increase the readiness of offenders in the UTL group to change their drinking habits, when compared to the Control group.

Summary / Conclusions

The present study was designed to examine the impact of completing the "Under the Limit" drink driving rehabilitation program on selected aspects of offenders' lifestyles.

The UTL program did not impact mental health, social support, knowledge, attitudes, and alcohol consumption profiles.

However, offenders who completed the program were significantly more likely to report intending to avoid drink driving, especially through changes in their driving behaviours, and to have engaged in fewer instances of drink driving at the completion of the study.

The UTL program was specifically designed to assist drink drivers in separating their drinking from their driving and it appears that this message was responded to through a change in driving behaviours rather than through a change in drinking habits.

1 Introduction

Drink driving is a major public health issue that has significant legal, financial and traffic safety implications. Interventions designed to target drink driving have been numerous and many of these countermeasures, for example, random breath testing or licence disqualification, have shown significant benefits for traffic safety outcomes (Siskind, 1996; Watson, Fraine, & Mitchell, 1995). However, drink driving, by its definition, has both a drinking and a driving element and to focus primarily on controlling driving may limit the possible benefits of intervention.

One method that has been used as a possible means of influencing the drinking component of the drink driving offence is through the introduction of drink driving rehabilitation programs. Drink driving rehabilitation is a broad term that is used to describe a variety of offender programs that aim to reduce recidivism. These programs utilise a wide range of methodologies and often vary considerably in content. As a consequence, some rehabilitation programs aim to educate offenders, working under the assumption that individuals drink and drive due to a lack of knowledge (Popkin, 1994). Other programs are counselling-based and aim to reduce recidivism by treating the 'drinking problem' (Popkin, 1994). Research tends to suggest that programs comprising some combination of both education and counselling in their treatment approach are most effective (Wells-Parker, Bangert-Drowns, McMillen, & Williams, 1995).

Over recent years, evaluations of drink driving rehabilitation programs have been numerous, with most evaluations focusing on reduction of recidivism as the measure of program effectiveness. While this is an important traffic safety outcome, it does not address the changes in the health, lifestyle and alcohol-related problems that may be a significant correlate of reduction in drink driving (Hedlund, 1995). It has been suggested that a more holistic approach to the evaluation of drink driving programs is needed (Fitzpatrick, 1992). In light of the many social and personal problems that are often reported in studies of offenders (Hedlund, 1995), obtaining changes in lifestyle factors and alcohol consumption may be a first but essential step towards more enduring effectiveness.

This report examines the effectiveness of the "Under the Limit" (UTL) drink driving rehabilitation program (Sheehan, 1994; Sheehan, Schonfeld, & Davey, 1995) in modifying lifestyle, knowledge and attitudes associated with drink driving. The UTL program is a 12-week program which aims to help drink driving offenders establish strategies to separate future episodes of drinking from driving. The "Under the Limit" program was designed to focus on three key alternatives to drink driving. "The three key alternatives to drinking and driving are:
If drinking – don't drive
If driving – don't drink
– stay under the legal limit (.00/.05)." (Sheehan et al., 1995, p. 44)

At the same time it was hypothesised that the differentiation of driving from drinking would not be achieved without achieving related changes in drinking and other lifestyle behaviours.

Development of the UTL program was based on best practice models for the treatment of drinking and drink driving and used a cognitive behavioural treatment focus in its approach (Sheehan et al., 1995). The UTL program covers a range of educational/knowledge areas and uses peer group processes and diary resources to develop alternatives to drink driving for problem situations. It examines the feelings and pressures that result in alcohol use and associated coping strategies (Sheehan et al., 1995).

This report, which focuses on lifestyle change among drink driving offenders, complements other reports which examine community change and offender recidivism as part of the evaluation of the UTL program (see Sheehan, Schonfeld, Siskind, & Baum, In Press; Siskind, Sheehan, Schonfeld, & Ferguson, In Press). It was proposed in the original design of the evaluation that using both measures of recidivism and lifestyle characteristics in program evaluations could enhance the knowledge gained from the outcome evaluation studies and provide insight into the processes of change. That is, by examining lifestyle change in association with changes in recidivism, a more complete evaluation of the UTL program could be possible.

2 Method

2.1 Procedure

Face-to-face interviews were used to assess changes in knowledge, attitudinal and lifestyle factors among drink driving offenders. Offenders were initially interviewed on the day of their court appearance at the Rockhampton, Gladstone or Yeppoon courthouses. Due to the nature of the legal system, the timing of the first interviews was scheduled around the offender's court appearance. As a result, some interviews were conducted prior to and some interviews were conducted immediately after the offender's court hearing.

First interviews were run between January and September 1997 with follow-up interviews occurring approximately 9 months (average 288 days) later. A follow-up period of approximately 9 months was required to ensure that those offenders undertaking the UTL program had completed the program prior to the second interview. A difference in follow-up periods existed between the offenders who undertook the UTL program (Mean = 293 days; SD = 26 days) and the offenders who did not undertake the UTL program (Mean = 282; SD = 27 days) (t(121) = -2.45, p< .02), with offenders on the UTL program requiring more time between their two interviews. Follow-up interviews began in October 1997 and were completed in June 1998 and were conducted at a venue convenient for the offender.

Participation in the study was voluntary and offenders signed a consent form agreeing to the conditions of the study prior to the first interview. The interviews took approximately half an hour to complete. At completion of each interview, offenders were paid $25 for their assistance.

2.2 Offender Sample

One hundred and fifty drink driving offenders appearing before a Central Queensland court on a drink driving charge between January and September 1997 were initially interviewed. A total of 246 offenders were approached during this time, with an overall participation rate of 61%. Participants were sequentially recruited until the target sample size was obtained. Out of the original sample of 150 drink driving offenders, 2 proved after recruitment to be ineligible (one had previously completed the 'Under the Limit' drink driving rehabilitation program and one was a juvenile offender), and 23 could not be located for the follow-up interview.

The final sample of 125 offenders who were interviewed on both occasions consisted of 62 offenders who agreed to be placed on the 'Under the Limit' drink driving rehabilitation program as a result of their court hearing (UTL group) and 63 offenders who opted against undertaking the UTL program as part of their rehabilitation (Control group). Offenders in the UTL group, in addition to undertaking the rehabilitation program, were placed on probation and received the normal licence disqualification. Whilst some offenders were also required to pay a fine, many

offenders had their fine waived or reduced in lieu of the course fees. Offenders in the Control group, however, stayed within the mainstream sentencing options and received a fine and licence disqualification for their drink driving offence.

Seventy-one percent of offenders were interviewed at the Rockhampton court, 27% were interviewed at the Gladstone court and 2% were interviewed at the Yeppoon court.

Of the 125 offenders who participated in this study, 24 (19.2%) had previously been convicted of a drink driving offence, with 4 (16.7%) of these offenders being convicted of more than one drink driving offence in the last 5 years. A significant difference was found between the UTL and Control groups for the number of prior drink driving offences ($\chi^2(1) = 5.36$), with 27% of the UTL group (n = 17) and 11% of the Control group (n = 7) having prior drink driving convictions.

Compared to the offender groups in the outcome evaluation of the UTL program (Siskind et al., In Press), the offenders who participated in this study were predominantly first time offenders. The outcome evaluation of the UTL program showed that previous drink driving history had a significant impact on the effectiveness of the UTL program (Siskind et al., In Press). Therefore, for all future analyses in this report, the pre-existing difference between the UTL and Control groups will be considered as a possible confounder.

For a more complete profile of the drink driving offenders who participated in this study, see Ferguson, Schonfeld & Sheehan (1999).

2.3 Content of Interview

The interview schedule used in this study was designed to include measures identified in the literature as potentially contributing to recidivism.

- Socio-demography of the offender sample. This included age, sex, marital status, education, employment status and number of prior drink driving offences.

- Mental Health Inventory (MHI5; Ware, Gandek, & the IQOLA Project Group, 1994) which measures the level of subjective mental health or psychological well-being experienced by an individual over the previous month.

- Social Support Appraisals Scale (SSA; Vaux, 1988). This is the first of two scales of social support used in this study and measures the degree to which an individual self rates as being loved by, esteemed by and involved with others from their social network. The SSA examines support from family, friends, and others, along with creating a total scale score. In the current study, the total scale score was seen as less meaningful as the study focused on 'who' was supplying the social support rather than 'how much' social support was supplied. The total scale score for the SSA was therefore not used.

- Interpersonal Support Evaluation List (ISEL: Cohen, Mermelstein, Kamarck, & Hoberman, 1985). This is the second of the social support measures with only the Self-esteem Support and Tangible Support Subscales being used in this study. The Self-esteem Support Subscale examines the availability of a positive comparison when comparing oneself with others. The Tangible Support Subscale measures the degree to which the respondent believes he/she can find instrumental aid and support from those surrounding him/her at the time.

- Knowledge of legal BAC levels, safe drinking levels, and factors believed to reduce BAC levels.

- Attitudes toward drink driving including the perceived dangers of drink driving, appropriate penalties, and whether it is acceptable to drink and drive under certain conditions.

- Behavioural intentions which ask about alternatives to drink driving and examine the likelihood that an offender will perform those behaviours in the future.

- Self-report drinking and driving behaviours which focus on direct behaviours performed by the offender, such as measures of alcohol consumption and level of drink driving.

- Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) which examines drinking behaviours to determine if an alcohol problem exists.

- Readiness to Change Scale (Heather & Rollnick, 1993) which measures a person's position or readiness to change their drinking problems.

The Appendix presents a more complete summary of the Mental Health Inventory, the SSA, the Self-esteem Support and Tangible Support Subscales of the ISEL, the AUDIT and the Readiness to Change Scale.

2.4 Statistical Analyses

The data collected from this project was analysed using the Statistical Package for Social Sciences, Version 8.0.1 (SPSS Inc, 1998). Any use of supplementary statistical techniques will be reported in the results section at the point where the analysis occurred. Statistical analyses used in this report include Non-parametric Chi-square, Analysis of Covariance (ANCOVA), and the Mantel-Haenszel Chi-square Test. The Type I error rate was set at 5%.

Gender differences for all variables discussed in this report were assessed and only those variables where a difference was found are reported.

3   Results

3.1 Socio-demographics

3.1.1   Profile of Socio-demographic Characteristics at Time 1

A range of socio-demographic characteristics were examined for differences between the UTL and Control groups. The following section briefly outlines the profile of the total offender sample at Time 1, indicating differences between the two groups where they occur. A detailed profile of the offenders who participated in this study is provided in Ferguson et al., (1999).

Of the total sample of 125 offenders, 101 (80.8%) were male. Seven (9%) offenders were of Aboriginal or Torres Strait Islander background. The mean age of the sample was 31.2 years (SD=11.4 years) with a median of 29 years. Table 1 shows the age distribution of the offender sample. The most common age group was the 'less than 25 years' age group, and 66.4% of the total sample were 34 years or less. Table 1 also shows the breakdown of marital status for the offender sample. Approximately two-thirds of the offender sample were single and one-quarter (25.6%) were in a relationship at the time of the first interview.

Table 1
Age distribution and marital status of the offender sample

Age Group	Percent (n = 125)	Marital Status	Percent (n = 125)
<25 years	36.8	Single	63.2
25-34 years	29.6	Married	13.6
35-44 years	20.0	De facto	12.0
45-54 years	9.6	Divorced	4.8
55+ years	4.0	Widowed	0.8
		Separated	5.6

The highest education level most commonly completed by offenders was the Junior (Year 10) level of education (50.0%). Only 15.3% of the sample had gone beyond a Senior (Year 12) standard of education, having completed either TAFE/apprenticeship or University/CAE. The distribution of offenders across level of education is presented in Figure 1.

In the 6 months prior to the first interview, 24 (19.2%) offenders had begun or completed an educational course of some kind. Of the 24 offenders who had undertaken additional education, the most common course was a trades course (50%), with the remaining courses being professional or university courses (29.2%), workforce or education re-entry courses (eg skillshare; 12.5%), and multiple courses (8.3%).

Figure 1
Highest Education Level Completed by Offenders
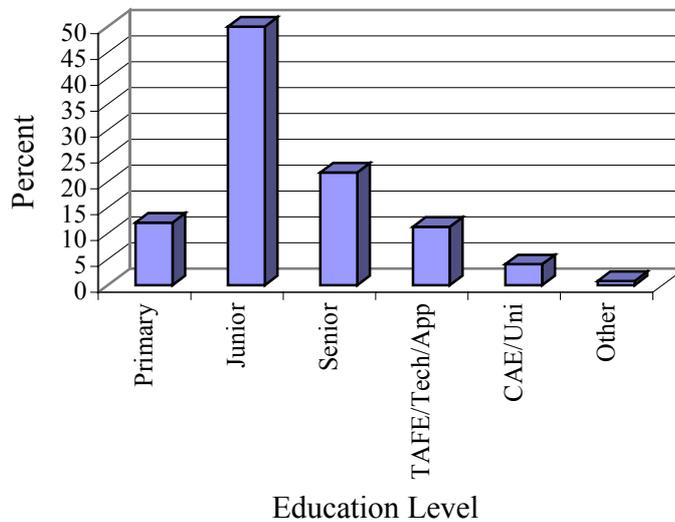
Forty-seven (37.6%) offenders were unemployed at the time of the first interview. Table 2 shows the employment characteristics of those offenders who *were* employed at the time of their first interview (n = 78). Whilst no difference was found between the UTL and Control groups for hours of employment or occupation, a gender difference was found for these variables ($\chi^2(2) = 6.16$ and $\chi^2(7) = 22.25$, respectively). If employed, male offenders were more likely to be employed in full-time work. Males were also more likely to work in the trades field while females were more likely to work in the sales field.

Forty-two percent of offenders were receiving some form of government assistance or pension at the time of their first interview. Figure 2 shows the distribution of offenders across pension type. Offenders were most likely to be receiving a Jobsearch, Newstart or Sole Parent pension. Of the 52 offenders who where receiving a pension at the time of the first interview, 82.7% were unemployed.

The median income for the entire sample was in the range of $12,001-$20,000. Figure 3 shows the distribution of offenders across income categories. As can be seen from Figure 3, 40.8% of offenders reported an income of less than $12,001. Fifty-nine percent of those offenders were unemployed *and* receiving a government pension.

Table 2
Employment characteristics of male offenders and female offenders employed at the time of the first interview[a]

	Employed Male Offenders (%) n = 65	Employed Female Offenders (%) n = 13
Hours of employment		
Full-time	73.8	46.2
Part-time	9.2	7.7
Casual	15.4	46.2
Occupation[b]		
Manager	3.1	--
Professional	10.8	--
Para-professional	3.1	23.1
Tradesperson	43.1	15.4
Clerk	--	7.7
Salesperson	9.2	38.5
Machine Operator	4.6	--
Labourer	23.1	15.4

[a] Percentages may not add to 100 due to missing data.
[b] Occupation was classified according to the 1991 Australian Bureau of Statistics census directory of classifications (Castles, 1991).

Figure 2
Distribution of Offenders across Pension Type (n = 52)

8
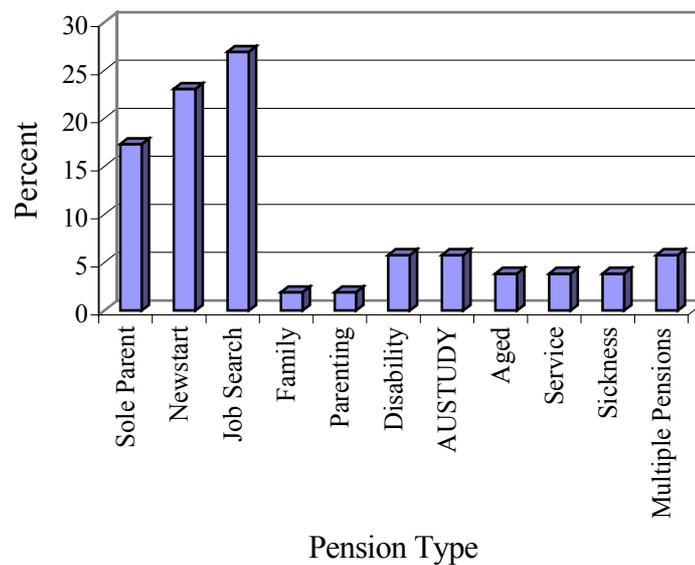
Figure 3
Distribution of Offenders across Income Categories
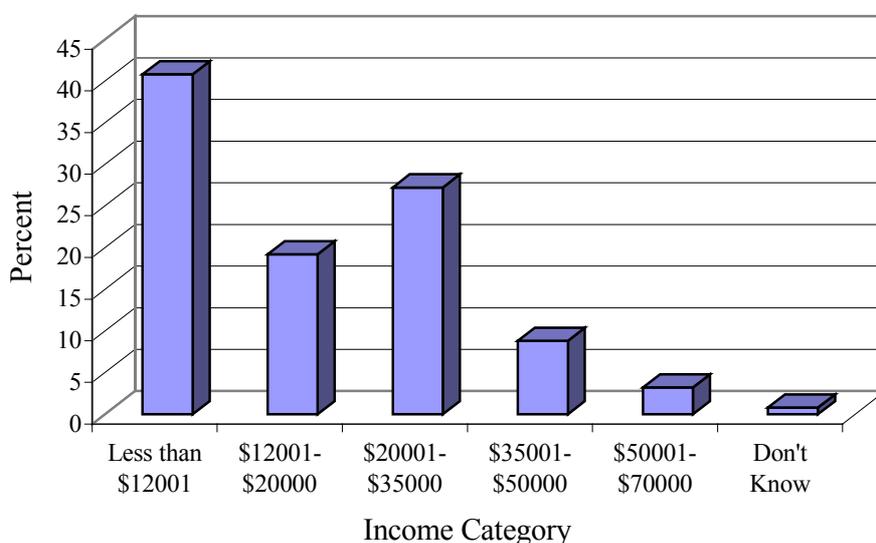
The most common type of residence for offenders was a house (82.4%) followed by a flat (10.4%). The remainder of offenders resided in units (4.0%), caravans (1.6%) or some other form of accommodation (1.6%). In general, offenders lived with two other people with at least one of those being a family member.

Of the total sample of offenders, 61.3% held an open drivers licence, while 9.7% were unlicensed or disqualified from driving at the time of their drink driving offence. The remainder of the sample held a provisional licence (23.4%) or a learner's permit (5.6%).

3.1.2   Change in Socio-demographic Characteristics

In the study development it was hypothesised that the participation in a rehabilitation program might lead to changes in social relationships and effectiveness. Marital status, employment and income were potential indicators of such change and were tested for changes over the 9 months.

Marital status for both the UTL and Control groups was examined in terms of relationship status (movement into and out of relationships). There was a significant difference between the UTL and control groups in terms of change in relationship status ($\chi^2(1) = 6.03$). None of the 63 controls moved out of a relationship, and only two moved into a relationship. For the remaining 61 there was no change in terms of relationship status. For the UTL participants, there was considerably greater movement (10 out of the 62 had changed). Four of the UTL participants moved out of a relationship while undertaking the program, while six moved into a relationship.

Examination of the change in employment status of offenders over the course of the study showed that for the UTL group, 8 offenders became employed, 5 offenders became unemployed and the remaining 49 offenders did not change their employment status. For the Control group, 6 offenders became employed, 5 offenders became unemployed and the remaining 52 offenders did not change their employment status over the 9 months between interviews. To examine the change in employment status, a Chi-square analysis was performed comparing the number of offenders who became employed over the 9 months to the number of offenders who became unemployed over the 9 months for both the UTL and Control groups. Results of the analysis were not significant ($\chi^2(1) = 0.12$), indicating no difference between the UTL and Control groups in the level of change in employment status.

When examining the number of offenders who changed their hours of employment over the course of the study, the results showed that for the UTL group, 11 offenders moved toward full-time employment, 6 offenders moved away from full-time employment and the remaining 44 offenders did not change their hours of employment. For the Control group, 6 offenders moved toward full-time employment, 7 moved away from full-time employment and the remaining 50 offenders did not change their hours of employment over the course of the study. A Chi-square analysis was performed to examine changes in "hours of employment" for each group over time. The analysis compared the number of offenders whose employment became more stable over the 9 months (eg part-time to full-time employment) to those whose employment became less stable over time (eg part-time employment to no employment). Results of the test were not significant ($\chi^2(1) = 1.03$), with the change in hours of employment being similar for both the UTL and Control groups.

Examination of the change in income over the course of the study showed that for the UTL group, 14 offenders shifted into a higher income bracket, 9 offenders shifted into a lower income bracket and 36 offenders remained within the same income bracket over the course of the study. Examination of the income for the Control group showed that 13 offenders moved into a higher income bracket, 8 moved into a lower income bracket and 40 offenders remained within the same interview bracket over the 9 months between interviews. Change in income was examined by comparing the number of offenders who moved into a higher income bracket to the number of offenders who moved into a lower income bracket for both the UTL and Control groups. Results of the Chi-square analysis were not significant ($\chi^2(1) = 0.005$), indicating that the UTL and Control groups did not differ in the amount of change in income over the course of the study.

Examination of the pension status of offenders showed that for the UTL group, 6 offenders began receiving a pension, 10 stopped receiving a pension and the remaining 45 offenders did not change their pension status over the course of the study. For the control group, 3 offenders began receiving a pension, 7 offenders stopped receiving a pension and the remaining 53 offenders did not change their pension status. A Chi-square analysis was performed for "pensions" by comparing the number of offenders who began receiving a pension to the number of offenders who stopped receiving a pension over the 9 months between interviews for both the UTL

and Control groups. The result was again not significant ($\chi^2(1) = 0.15$), suggesting that the change in the number of offenders who were/were not receiving a pension was similar for both the UTL and Control groups.

3.1.3   Summary of Socio-demographic Characteristics

Offenders who participated in this study were mostly male, single and young. Few were educated beyond a Year 12 standard and many were unemployed and / or receiving a government pension. No difference was found between the UTL and Control groups on these demographic variables.

Change in the socio-demographic profile of the UTL and Control groups over the course of the study was examined. While many variables such as age, gender and education level were not analysed for change because of the static nature of these characteristics, variables relating to marital status, employment status and income were examined. There was a significant difference between the UTL and control groups in terms of change in relationship status, while there was no difference in the level of change for employment status and income. Change in employment characteristics therefore cannot be considered as a possible outcome of the effectiveness of the UTL program.

3.2 Mental Health Inventory

3.2.1   Profile of Mental Health at Time 1

Offenders' scores on the MHI5 ranged from 0 to 20 with scores being spread throughout the entire range available (see Figure 4). The reliability of the MHI5 for the offender sample was 0.82 (n = 125).   Overall, the offender sample was experiencing a high level of mental health as 82.4% had a score at or below the mid-point of this scale. The mean level of mental health was 6.6 (SD = 4.1; Median = 6).

Figure 4
Distribution of Scores on the Mental Health Inventory
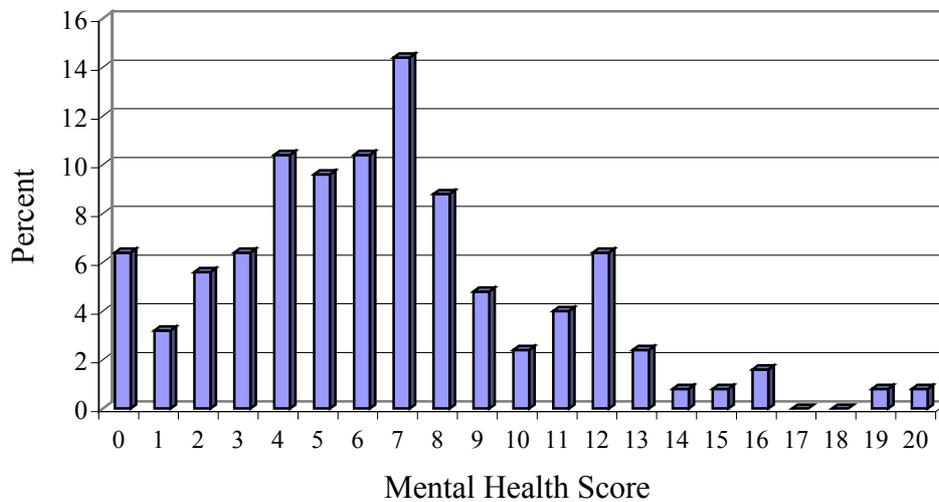
Differences between the UTL and Control groups at Time 1 were examined using Analysis of Covariance (ANCOVA). Prior drink driving history added as the covariate due to the pre-existing difference between the UTL and Control groups for this variable (See Section 3.1.1). Prior drink driving history was found to impact on mental health scores ($F(1,122) = 5.59$). Those offenders who had a prior drink driving conviction (Mean = 8.4; SD = 4.4) had higher scores and therefore poorer mental health than those offenders with no prior convictions (Mean = 6.1; SD = 3.8). After adjusting mental health scores to take into account differences in prior drink driving history, no difference was found between the UTL and Control groups in their mental health status ($F(1,122) = 0.39$). The mean mental health score for the UTL group was 7.0 (SD = 3.9), while for the Control group it was 6.2 (SD = 4.2).

3.2.2 Change in Mental Health

To determine if the level of mental health experienced by offenders increased to a greater extent over time for the UTL group compared to the Control group, a difference score between Time 1 and Time 2 was created. An ANCOVA comparing the groups was then performed with prior drink driving history being added as the covariate. No difference was found between the UTL and Control groups in their difference scores ($F(1,122) = 2.42$). The mean difference score for the UTL group was –2.4 (SD = 3.4) and the mean difference score for the Control group was –1.2 (SD = 3.9). Prior drink driving history did not co-vary with mental health difference scores ($F(1,122) = 1.96$).

3.2.3   Summary of Mental Health

The level of mental health experienced by the total offender sample at the time of the first interview was high. However, offenders with prior drink driving convictions had poorer mental health than those offenders with no prior convictions. No difference was found between the UTL and Control groups at the time of the first interview.

There again was no difference between the UTL and Control groups when change in mental health was examined. The UTL program therefore did not impact on the level of mental health experienced by offenders.

3.3 Social Support Appraisals Scale

3.3.1   Profile of Social Support as Measured by the SSA at Time 1

Family Subscale: The reliability of the Family Support Subscale was 0.91 (n = 125). Scores ranged from 8 to 27 out of a possible range of 8 to 32. In general, scores for this subscale were clustered at the low end of the spectrum with 80.0% of the sample having a score at or below the mid-point for this subscale (ie a score of 16 or less). Offenders in this study reported a high level of support from their family as the mean level of support was 13.4 (SD = 4.3; Median = 13). The distribution of scores for this subscale is presented in Figure 5.

Figure 5
Distribution of Scores for the SSA Family Support Subscale
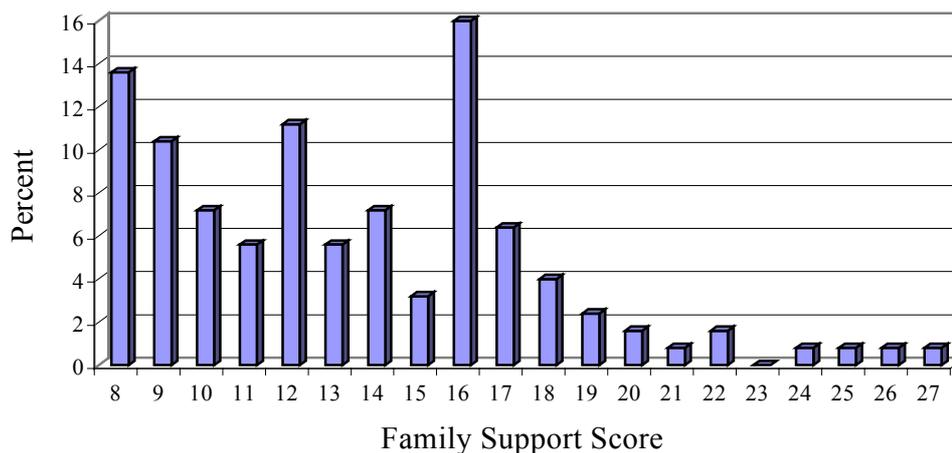
An ANCOVA was performed on family support scores to examine differences between the UTL and Control groups. After adjusting for prior drink driving history, no significant difference was found between the UTL and Control groups at Time 1 ($F(1,122) = 0.02$). The UTL group had a mean family support score of 13.6 (SD = 4.5) while the Control group had a mean score of 13.2 (SD = 4.0). Prior drink driving history did not co-vary with family support scores ($F(1,122) = 3.15$).

Friends Subscale: The reliability of the Friends Support Subscale was 0.93 (n = 124). Scores for this subscale ranged from 7 to 23 out of a possible range of 7 to 28. Offenders' scores were clustered at the low end of the spectrum, indicating high social support from friends. The mean score for the Friends Subscale was 12.3 (SD = 3.5; Median = 13). Figure 6 shows the distribution of offenders' scores for this subscale. Peak responding was found at a score of 14 with 35.5% of offenders having this score. A total of 87.1% of the sample had a score at or below the mid-point of this scale.

Figure 6
Distribution of Scores for the SSA Friends Support Subscale
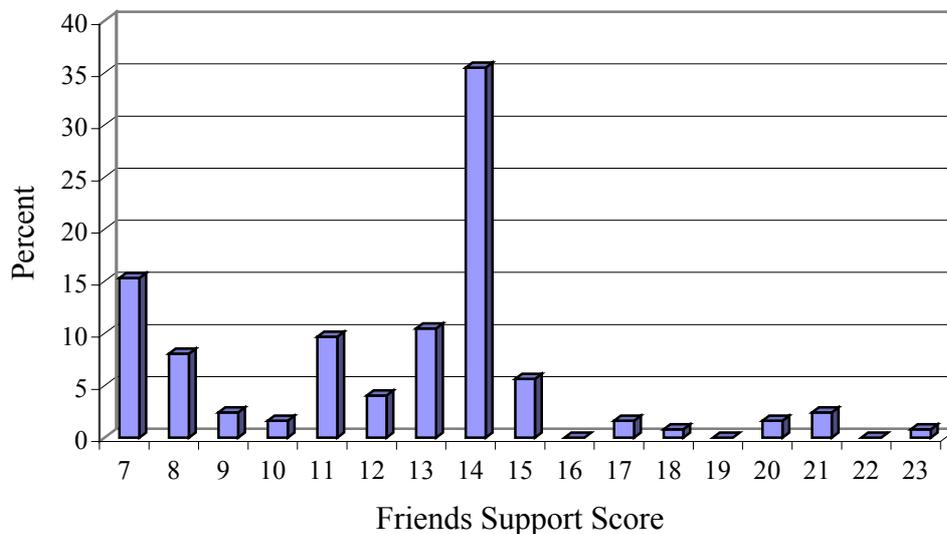
An ANCOVA was performed on the Friends Support Subscale to examine differences between the UTL and Control groups at the time of the first interview. After adjusting friends support scores to take into consideration prior drink driving history, no significant difference was found between the UTL and Control groups for this subscale ($F(1,121) = 0.26$). The UTL group had a mean friends support score of 12.3 (SD = 3.8) while the Control group had a mean score of 12.2 (SD = 3.2). Prior drink driving history was found to co-vary with friends support scores ($F(1,121) = 7.62$), with offenders who had prior drink driving convictions (Mean = 14.0; SD = 4.0) having higher scores and therefore lower support from friends than those offenders with no prior convictions (Mean = 11.9; SD = 3.3).

Others Subscale: The reliability of the Others Support Subscale was 0.87 (n = 125). Offenders' scores ranged from 8 to 23 out of a possible range of 8 to 32. The mean level of support received by offenders was 15.1 (SD = 3.5; Median = 16), suggesting that offenders were receiving a mid-to-high level of support from others within their social network. Approximately two-thirds of the sample had a score of 16 or less (ie a score that fell on or below the mid-point for the Others Support Subscale). The distribution of scores for the Others Support Subscale is presented in Figure 7.

Figure 7

Distribution of Scores for the SSA Others Support Subscale
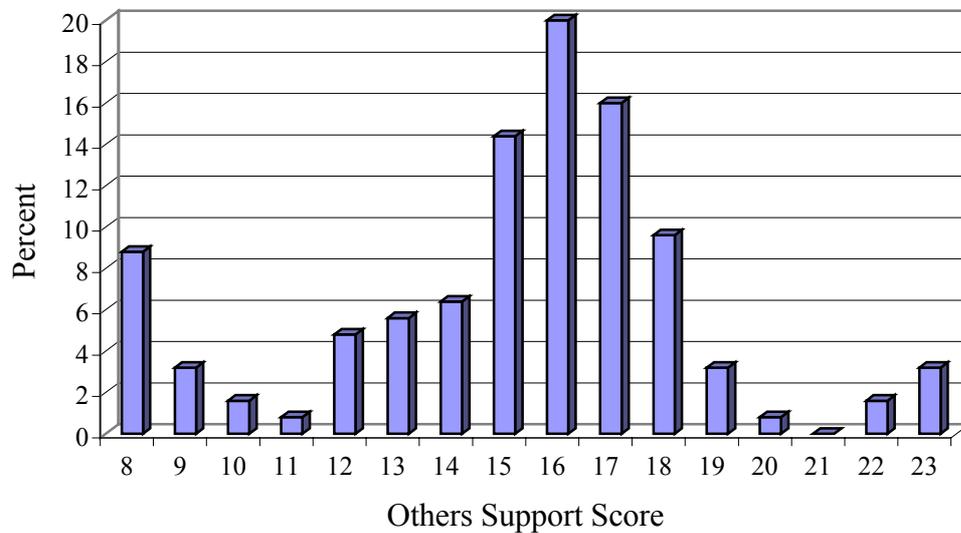
Differences between the UTL and Control groups were examined using an ANCOVA. After controlling for prior drink driving history, no difference was found between the UTL and Control groups for others support scores ($F(1,122) = 0.19$). The UTL group had a mean Others Support score of 15.2 (SD = 3.8) while the Control group had a mean score of 15.0 (SD = 3.1). Prior drink driving history was found to impact on support from others (F(1,122) = 10.45), with offenders who had prior drink driving convictions (Mean = 17.1; SD = 3.7) having higher scores and therefore less social support than offenders with no prior convictions (Mean = 14.6; SD = 3.3).

3.3.2   Change in Social Support as Measured by the SSA

To examine the change in the level of social support received over the course of the study, difference scores were created for each of the Family, Friends and Others Support Subscales. Differences between the UTL and Control groups on the change scores were examined using ANCOVAs, with prior drink driving history added as the covariate. Results of the ANCOVAs are presented in Table 3.

Table 3
Results of the ANCOVAs examining changes in level of social support received

Subscale	Group Difference	Mean Difference Score (Standard Deviation)	Prior Drink Driving History
Family	$F(1,122) = 0.001$	UTL Group = -0.1 (4.7) Control Group = 0.0 (3.5)	$F(1,122) = 0.21$
Friends	$F(1,121) = 0.15$	UTL Group = -0.6 (3.7) Control Group = -0.2 (2.5)	$F(1,121) = 3.24$
Others	$F(1,122) = 0.01$	UTL Group = -1.0 (3.9) Control Group = -0.9 (3.1)	$F(1,122) = 3.09$

As can be seen from Table 3, no difference was found between the UTL and Control groups for the difference scores for each of the subscales. Results suggest that any improvement that may have been seen in social support over the course of the study was the same for offenders in both groups. Prior drink driving history did not influence changes in the level of social support received from family, friends or others.

3.3.3   Summary of Social Support as Measured by the SSA

At the time of the first interview, offenders' scores on the Family, Friends and Others Support Subscales of the SSA were within the mid-to-low range for these scales. Consequently, as a group offenders reported receiving a high level of social support from all subgroups within their social network. There were significant differences in scores on support from friends and others between first offenders and those with prior drink driving convictions. The latter group reporting less support from friends and others.
Examination of the change in the level of social support received from family, friends and others was undertaken. No difference was seen between the UTL and Control groups in the amount of change in social support received.

3.4 Interpersonal Support Evaluation List

3.4.1   Profile of Social Support as Measured by the ISEL at Time 1

Self-esteem Support Subscale: Reliability of the Self-esteem Support Subscale was 0.74 (n = 125). Offenders' responses ranged from 11 to 29 out of a possible range of 0 to 30. Figure 8 shows that the scores for this subscale are clustered in the high end of the spectrum, indicating that the offender group was experiencing a high level of self-esteem support. The mean score for this subscale was 21.6 (SD = 4.2; Median = 21) with 66.4% of offenders having a score in the top 1/3 of the range (ie a score of 20 or above).

Figure 8

Distribution of Scores for the Self-esteem Subscale of the ISEL
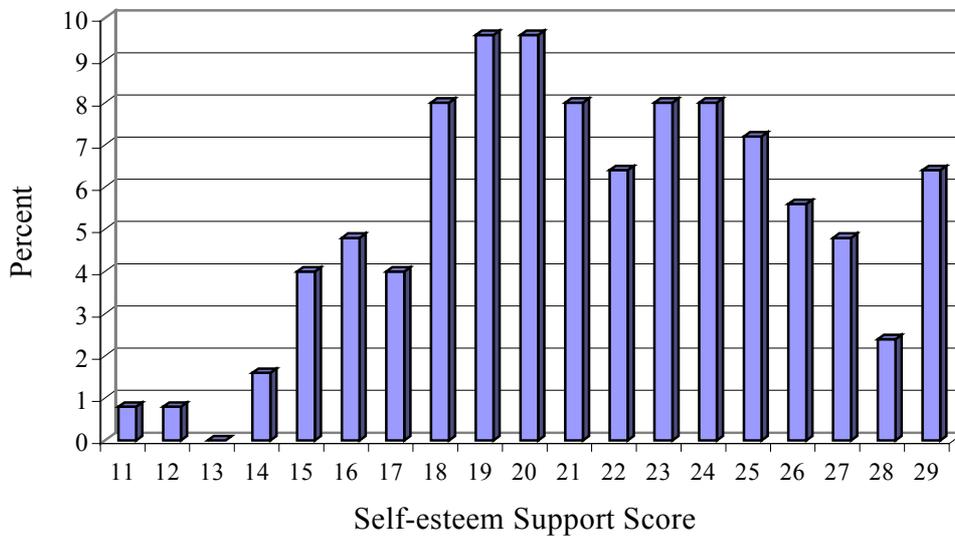
Differences between the UTL and Control groups at Time 1 were examined using ANCOVA, with prior drink driving history added as the covariate. Prior drink driving history did co-vary with self-esteem support scores ($F(1,122) = 11.89$). Offenders with no prior convictions (Mean = 22.2; SD = 3.8) showed higher scores on this scale than offenders with 1 or more prior drink driving convictions (Mean = 19.0; SD = 4.8), indicating that offenders with prior convictions were receiving less self-esteem support from their social network. After adjusting self-esteem support scores to take into account differences in prior drink driving history, no difference was found between the UTL and Control groups for level of self-esteem support received ($F(1,122) = 0.002$). The UTL group had a mean self-esteem support score of 21.3 (SD = 4.0) while the Control group had a mean score of 21.8 (SD = 4.3).

Tangible Support Subscale: The reliability of the Tangible Support Subscale was 0.81 (n = 123). Figure 9 shows the distribution of offender scores for this scale. As this figure illustrates, the Tangible Subscale is negatively skewed. Scores ranged from 4 to 30 out of a possible range of 0 to 30. Most of the offender sample had high tangible support, with 83.7% having a score of 20 or higher (ie in the top 1/3 of the distribution). The mean score for this subscale was 24.6 (SD = 5.0; Median = 26).

Differences between the UTL and Control groups for level of tangible support received were examined using ANCOVA, with prior drink driving history added as a covariate. Results indicate that after adjusting tangible support scores, no difference between the two groups was found ($F(1,120) = 0.23$). The mean tangible support score for the UTL group was 24.3 (SD = 5.0) while for the Control group it was 24.9 (SD = 4.9). Prior drink driving history did not co-vary with tangible support scores ($F(1,120) = 1.27$).

Figure 9
Distribution of Scores for the Tangible Support Subscale of the ISEL
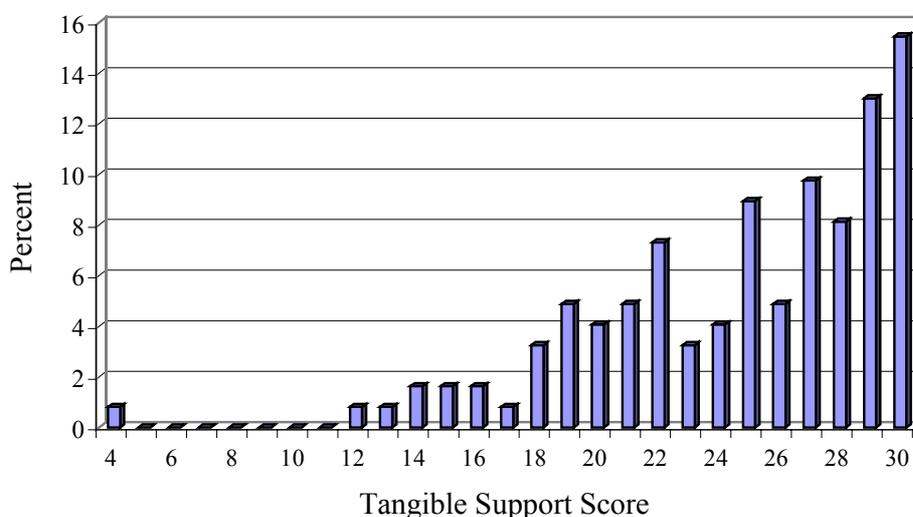
3.4.2   Change in Social Support as Measured by the ISEL

Difference scores were created for each subject for both the Self-esteem Support and Tangible Support Subscales. To compare changes over time for the UTL and Control groups, an ANCOVA was performed for each scale using the difference scores. Prior drink driving history was added as the covariate. Results of the two ANCOVAs are presented in Table 4.

Table 4
Results of the ANCOVAs examining changes in self-esteem and tangible support

Scale	Group Difference	Mean Difference Score (Standard Deviation)	Prior Drink Driving History
Self-esteem Support	$F(1,121) = 2.95$	UTL Group = 1.8 (4.0) Control Group = 0.4 (3.8)	$F(1,121) = 1.71$
Tangible Support	$F(1,119) = 0.02$	UTL Group = 1.3 (4.5) Control Group = 1.2 (3.6)	$F(1,119) = 0.03$

As can be seen from Table 4, after adjusting scores to account for prior drink driving history, no difference was found between the UTL and Control groups in their difference scores for either the Self-esteem Support or Tangible Support Subscales. Prior drink driving history did not impact on change scores for either of the two scales.

3.4.3 Summary of Social Support as Measured by the ISEL

At the time of the first interview, offenders in general reported receiving a high level of tangible assistance and self-esteem support from their social network. However, offenders with prior drink driving convictions reported significantly lower levels of self-esteem support. No difference was found between the UTL and Control groups in the levels of support received. Results also showed no difference between the UTL and Control groups in the amount of change in social support over the course of the study. That is, any change that was seen in the level of self-esteem and tangible support received was similar for offenders in both groups.

3.5 Knowledge

3.5.1 Profile of Knowledge at Time 1

At first interview, offenders were asked a series of questions that ascertained their level of knowledge regarding the effects of alcohol. These questions focused on safe consumption levels for driving, BAC limits, and ways to reduce BAC levels. Differences between the UTL and Control groups were examined and results are reported below.

Items concerning safe alcohol consumption levels for driving referred to safe levels for an adult man with an open licence, an adult woman with an open licence, and a provisional driver who is under 25 years of age. Table 5 presents the proportion of offenders who correctly identified the number of drinks that could be consumed before each class of driver described above would be over the limit. A significant difference between the UTL and Control groups was found for the questions relating to an adult man and a provisional driver, with offenders in the UTL group responding more accurately to these items.

Table 5
Percent of offenders correctly identifying safe drinking levels for driving and legal BAC limits for several classes of drivers

	UTL Group[a] (%)	Control Group[b] (%)	Group Difference
Safe drinking levels for driving[c] for:			
Adult man (2 drinks)	50.0	27.0	$\chi^2(1) = 7.00^{**}$
Adult woman (1 drink)	46.8	33.3	$\chi^2(1) = 2.35$
Provisional driver (0 drinks)	83.9	66.7	$\chi^2(1) = 4.96^{*}$
Legal BAC limit[c] for:			
Open driver (0.05)	95.2	92.1	$\chi^2(1) = 0.50$
Provisional driver (0.00)	75.8	77.8	$\chi^2(1) = 0.07$
Alcohol affects men and women the same[c] (No)	59.7	73.0	$\chi^2(1) = 2.50$

[a] n = 62; [b] n = 63; [c] Correct responses for these items are presented in brackets.
[*] p< .05; [**] p< .01

Table 5 also shows the percent of offenders who correctly identified the legal BAC for open licensed drivers and the legal BAC for provisional drivers under 25 years of age. There were no significant differences between the UTL and Control groups for these variables. When asked whether the effects of alcohol are the same for men and women, it appeared that offenders in the Control group were more likely to correctly indicate "No". However, this trend was also not significant.

Offenders were also asked about the factors that would / would not help to reduce a person's BAC. These factors included drinking milk, drinking coffee, vomiting, time, taking a shower, and exercising, and are presented in Table 6. Offenders in both groups responded least accurately to 'vomiting' and 'exercise'. In general, the UTL group appeared to have greater knowledge of the effects of alcohol on the body as more offenders in this group were able to correctly identify which factors would / would not reduce BAC levels. However, a significant difference between the two groups was found only for vomiting ($\chi^2(1) = 4.02$).

Table 6
Percent of offenders correctly identifying which factors will / will not reduce BAC levels

	UTL Group[a] (%)	Control Group[b] (%)
BACs can be reduced[c] by:		
Milk (False)	83.9	76.2
Coffee (False)	77.4	71.4
Vomiting (False)	74.2	57.1
Time (True)	90.3	81.0
Taking a shower (False)	88.7	82.5
Exercise (False)	64.5	63.5

[a] N = 62; [b] N = 63; [c] Correct responses are presented in brackets.

Aggregate scores for offenders' knowledge were computed by summing accurate responses across all 12 knowledge items for each offender. The mean number of accurate responses for the UTL group was 8.9 (SD = 2.0), while the mean number of accurate responses for the Control group was 8.0 (SD = 2.4). An ANCOVA was performed to determine if offenders' aggregate knowledge was higher in the UTL group compared to the Control group. Prior drink driving history was added as the covariate. Results of the ANCOVA indicate that prior drink driving history did not influence aggregate knowledge scores ($F(1,122) = 0.003$). Results also indicate that a significant difference between the UTL and Control groups was found for knowledge ($F(1,122) = 4.82$), with offenders in the UTL group having higher aggregate knowledge scores than offenders in the Control group.

3.5.2   Change in Knowledge

Aggregate scores were again computed for the knowledge items by summing accurate responses across all knowledge questions for each offender for both Time 1 and Time 2. To determine if accuracy of responding improved to a greater extent over time for the UTL group compared to the Control group, a difference score between Time 1 and Time 2 was created. An ANCOVA comparing the groups was performed with prior drink driving history added as the covariate.

Results of the analysis indicated no difference between the UTL and Control groups for difference scores ($F(1,122) = 0.51$). The mean increase in aggregate knowledge scores for the UTL group (Mean = 2.0; SD = 2.1) was similar to the mean increase in aggregate knowledge scores for the Control group (Mean = 1.7; SD = 2.1). Prior drink driving history did not impact on the change in aggregate knowledge scores ($F(1,122) = 0.003$).

3.5.3   Summary of Knowledge

At the time of the first interview, offenders in the UTL group were responding more accurately to the knowledge items compared to offenders in the Control group. More specifically, the UTL group had greater knowledge of safe alcohol consumption levels for driving compared to offenders in the Control group.

Examination of the aggregate scores for knowledge suggest that the UTL group, who at the time of the first interview had higher knowledge scores than the Control group, continued to have higher scores over the course of the study. However, their scores did not increase to any greater extent over the course of the study when compared to the scores for the Control group.

3.6 Attitudes

3.6.1   Profile of Attitudes at Time 1

A range of attitudinal questions were rated on a 10-point scale where '1' indicated 'Strongly Disagree' and '10' indicated 'Strongly Agree'. A full list of the variables, along with their means and standard deviations is presented in Table 7. This table also presents the percent of offenders agreeing (ie giving a score of 6 or above) to each of the attitudinal variables. Attitudinal items that related to a specified number of drinks were systematically worded for male and female respondents.

Differences between the UTL and Control groups on these variables were examined using ANCOVA, with prior drink driving history added as the covariate. After adjusting for the effects of prior drink driving history, only one significant group difference was found. This was for the variable "If I drive when I'm over the limit I will get picked up for a breath test" ($F(1,122) = 3.98$). Offenders in the UTL group (Mean = 8.8; SD = 2.5) were more likely to agree with this statement at the time of the first interview than offenders in the Control group (Mean = 7.9; SD = 2.5). Prior drink driving history did not influence the scores on the attitudinal questions in any instance. Gender differences were also examined with females holding more desirable attitudes than males on several of the attitudinal questions. These differences are highlighted in Table 7.

Table 7
Percent agreement, means and standard deviations for the attitudinal questions

	Agreement (%)[a]	Mean	SD
There is no excuse for driving while drunk.	88.8[b]	8.82	2.41
If I drive when I'm over the limit, I will get picked up for a breath test.	79.2[b]	8.38	2.45
People who drink and drive should lose their driver's licence.	78.4	8.01	2.57
Everybody drinks and drives once in a while.	77.6	7.61	2.50
My friends would think I was really stupid if I drove after drinking.	71.2	7.67	2.73
I won't drive if I've had X drinks in one hour.	51.2	5.79	3.78
I think it's okay if I drive after drinking X drinks in one hour.	46.4	5.36	3.77
Drinking and driving is common in my community.	44.0	5.40	3.05
It's okay to drive after drinking so long as you're not drunk.	34.7[c]	4.43	3.19
My community needs stricter laws against drunk driving.	32.8[b]	4.76	3.11
The dangers of drinking and driving are overrated.	29.6[c]	3.95	3.50
The police spend too much time hassling drinking drivers.	25.6[c]	3.70	3.03
Most of my friends think it's okay to drink and drive.	23.2	3.85	2.61
It's okay to drink and drive so long as you don't get caught.	14.4	2.54	2.66
Some people drive better after drinking.	14.4	2.50	2.55
People who drink and drive should go to jail.	8.0	2.75	2.11

[a] n = 124

[b] Females were significantly more likely to agree with this statement.

[c] Females were significantly more likely to disagree with this statement.

In general, whilst the majority of offenders believed there is no excuse for drink driving, nearly half the sample indicated that they would still drive after consuming enough alcohol to place them over the legal limit.

Among the offender sample, drink driving behaviours were considered to be common with more than three-quarters of the sample indicating that everybody drinks and drives once in a while. There was also a perception among three-tenths of the sample that the dangers of drink driving are overrated. The level of peer censure for drink driving behaviours was high with 71% of offenders indicating that their friends would consider them stupid if they drove after drinking. Similarly, peer acceptance of drink driving was low with less than one-quarter of the sample indicating that their friends think it's okay to drink and drive.

A small proportion of the offenders reported deviant beliefs that it's okay to drink and drive so long as you don't get caught and that some people drive better after drinking.

Many offenders, particularly those in the UTL group, believed that if they drove while over the limit they would be picked up for a breath test which may have reflected the experience of the larger proportion of recidivist offenders in this group.

3.6.2   Change in Attitudes

To examine changes in attitudes over time, difference scores were created for each attitudinal item. A series of ANCOVAs were run on the difference scores, with prior drink driving history added as the covariate. Results of the ANCOVAs are presented in Table 8. As can be seen from this table, there was no difference in change scores between the UTL and Control groups for each of the attitudinal items. The results suggest that where an improvement in attitudes had taken place, both the UTL and Control groups improved their attitudes to the same extent over the course of the study. Prior drink driving history was found to co-vary with difference scores on only one of the attitudinal items – "There is no excuse for driving while drunk". In this instance, offenders with 1 or more prior convictions (Mean Difference Score = -1.6; SD = 2.0) changed their attitudes in the desired direction compared to offenders with no prior drink driving convictions (Mean Difference Score = 0.1; SD = 2.9) ($F(1,122) = 6.73$).

3.6.3   Summary of Attitudes

Examination of the attitudinal questions showed that offenders in the UTL group did not have substantially different attitudes to offenders in the Control group, at the time of the first interview. However, gender differences did exist on several of the attitudinal items with females having the more desirable attitudes toward drink driving in all instances. In general, offenders indicated that drink driving is common, with some offenders indicating a level of acceptance of drink driving behaviours among their peers. Significantly more offenders who elected to do the UTL program believed they would be picked up for a breath test if they drove after drinking. Some offenders in both groups indicated that they would still drive after consuming enough alcohol to place them over the legal limit. Clearly a small number of offenders had deviant attitudes toward drink driving at the time of the initial interview, especially those who believed that the dangers of drink driving are over-rated and that it's okay to drink and drive so long as you don't get caught.

While offenders in the UTL group were equally as likely as offenders in the Control group to hold deviant attitudes towards personal drink driving at the time of the first interview, they did not appear to have improved their attitudes to a greater extent over the course of the study. This suggests that the UTL program had little effect on the attitudes of offenders who under took the program as part of their rehabilitation.

Table 8
Results of the ANCOVAs examining changes in attitudes over time

	Group Difference	Mean Difference Scores (Standard Deviation)
There is no excuse for driving while drunk.	$F(1,122) = 0.14$	UTL Group = -0.3 (2.5) Control Group = -0.2 (3.3)
If I drive when I'm over the limit, I will get picked up for a breath test.	$F(1,122) = 1.35$	UTL Group = -0.3 (2.2) Control Group = 0.2 (3.5)
People who drink and drive should lose their driver's licence.	$F(1,122) = 0.87$	UTL Group = 0.4 (2.9) Control Group = -0.3 (2.7)
Everybody drinks and drives once in a while.	$F(1,122) = 0.79$	UTL Group = -0.6 (2.8) Control Group = -0.3 (3.0)
My friends would think I was really stupid if I drove after drinking.	$F(1,122) = 0.26$	UTL Group = -0.3 (2.8) Control Group = 0.1 (3.4)
I won't drive if I've had X drinks in one hour.	$F(1,122) = 0.54$	UTL Group = 1.6 (4.0) Control Group = 1.1 (4.7)
I think it's okay if I drive after drinking X drinks in one hour.	$F(1,122) = 2.54$	UTL Group = -1.9 (4.9) Control Group = -0.9 (4.0)
Drinking and driving is common in my community.	$F(1,122) = 0.25$	UTL Group = 0.1 (3.0) Control Group = 0.4 (4.0)
It's okay to drive after drinking so long as you're not drunk.	$F(1,122) = 3.58$	UTL Group = -1.2 (3.3) Control Group = 0.1 (3.2)
My community needs stricter laws against drunk driving.	$F(1,122) = 1.17$	UTL Group = -0.1 (3.2) Control Group = 0.5 (3.6)
The dangers of drinking and driving are overrated.	$F(1,122) = 0.12$	UTL Group = -0.7 (4.0) Control Group = -0.6 (3.3)
The police spend too much time hassling drinking drivers.	$F(1,122) = 0.04$	UTL Group = -0.2 (2.9) Control Group = -0.3 (2.7)
Most of my friends think it's okay to drink and drive.	$F(1,122) = 0.03$	UTL Group = 0.3 (3.7) Control Group = 0.1 (2.8)
It's okay to drink and drive so long as you don't get caught.	$F(1,122) = 0.002$	UTL Group = -0.3 (2.7) Control Group = -0.3 (2.8)
Some people drive better after drinking.	$F(1,122) = 2.65$	UTL Group = -0.8 (2.6) Control Group = -0.2 (2.3)
People who drink and drive should go to jail.	$F(1,122) = 0.30$	UTL Group = 1.0 (2.7) Control Group = 0.9 (2.4)

3.7 Behavioural Intentions

3.7.1   Profile of Behavioural Intentions at Time 1

At the first interview, offenders were asked a series of questions examining the behaviours they would change in order to avoid future drink driving offences. Offenders rated the likelihood of performing the behaviours on a 5-point scale where '1' indicated 'Yes – definitely', '3' indicated 'Unsure', and '5' indicated 'No – definitely not'. Table 9 shows the means and standard deviations for each of the behavioural intention questions at the time of the initial interview. Table 9 also shows the percent of offenders who indicated that they would perform these behaviours in

the future. At the time of the initial interview, the total offender sample indicated that they would prefer to take a taxi or have a driver that does not drink than to drink lite beer or avoid being involved in shouts.

Table 9
Percent agreement, means and standard deviations for each of the behavioural intentions variables

	Agreement[a] (%)	Mean[b]	SD
Take a taxi by yourself or with others if you have been drinking	95.2	1.40	0.66
Plan ahead that the driver will not drink	94.4	1.54	0.74
Plan ahead not to drink if you are going to drive	86.4	1.66	0.99
Leave locked car where it was and not drive	84.0	1.77	0.93
Stay away overnight if you have been drinking	84.0	1.68	0.96
Keep track of your drinks and stay under the limit if you are driving	69.6	2.22	1.35
Avoid being involved in 'shouts' to make sure you drink less	53.6	2.59	1.41
Drink lite beer if driving	49.6	3.02	1.57

[a] Percentages are calculated on the number of offenders giving a response of '1' or '2' to the above variables; [b] n = 125.

A Principal Components Analysis was performed on the behavioural intentions questions and a 2-factor solution after varimax rotation emerged (explained variance = 57.0%). Table 10 shows the variable loadings for each factor. Factor 1 represents changes to *driving behaviours*, while factor 2 represents changes to *drinking behaviours*. The reliability (Cronbach's alpha) of the *driving behaviours* factor was 0.79 and the reliability of the *drinking behaviours* factor was comparatively low at 0.55.

Table 10

Variable loadings for the Principal Components Analysis of the behavioural intentions questions

	Factor 1	Factor 2
Take a taxi by yourself or with others if you have been drinking	0.78	
Plan ahead that the driver will not drink	0.84	
Plan ahead not to drink if you are going to drive	0.81	
Stay away overnight if you have been drinking	0.49	
Leave locked car where it was and not drive	0.69	
Keep track of your drinks and stay under the limit if you are driving		0.78
Avoid being involved in 'shouts' to make sure you drink less		0.64
Drink lite beer if driving		0.69

Factor scores were computed for each offender by summing the scores across the items that made up the *drinking behaviours* factor and the *driving behaviours* factor. Scores on the *drinking behaviours* factor ranged from 3 to 15, with scores being spread throughout the entire range available. Scores on the *driving behaviours* factor ranged from 5 to 22 out of a possible range of 5 to 25. A low score on each factor indicates a greater willingness to perform those behaviours in the future.

Differences between the UTL and Control groups for each factor were examined using ANCOVA, with prior drink driving history added as the covariate. Results indicate no difference between the UTL and Control groups at first interview for the *driving behaviours* factor ($F(1,122 = 0.44)$. The UTL group had a mean score of 8.3 (SD = 3.4) while the Control group had a mean score of 7.8 (SD = 2.9) for this factor. No difference between the UTL and Control groups was also found for the *drinking behaviours* factor ($F(1,122) = 0.09$). For the *drinking behaviours* factor, the UTL group had a mean score of 7.7 (SD = 3.1) and the Control group had a mean score of 7.9 (SD = 3.2). Prior drink driving history did not impact on *driving behaviours* scores ($F(1,122) = 1.75$) or *drinking behaviours* scores ($F(1,122 = 0.01$).

3.7.2 <u>Change in Behavioural Intentions</u>

To determine if the UTL group were more likely to change their behaviours at the time of the second interview, difference scores were calculated for both the *driving behaviours* factor and the *drinking behaviours* factor. ANCOVAs were performed on the difference scores, with prior drink driving history added as the covariate.

Results of the ANCOVA performed on the *driving behaviours* factor indicate that a significant difference existed between the UTL and Control groups in difference scores ($F(1,122) = 7.89$). Offenders in the UTL group (Mean = -2.1; SD = 3.0) showed a greater willingness to change their driving behaviours than offenders in the Control group (Mean = -0.52; SD = 3.1). Prior drink driving history did not impact on the difference scores for this factor ($F(1,122) = 0.18$).

Results of the ANCOVA performed on the difference scores for the *drinking behaviours* factor indicate that offenders in the UTL group were no more willing to change their drinking behaviours by the time of the second interview than were offenders in the Control group ($F(1,122) = 1.01$). The mean difference score for the UTL group was –1.6 (SD = 3.8) while for the Control group it was –0.9 (SD = 3.9). Prior drink driving history did not influence the difference scores for the *drinking behaviours* factor ($F(1,122) = 0.02$).

3.7.3   Summary of Behavioural Intentions

At the time of the first interview offenders indicated that they would prefer to take a taxi or plan that the driver will not drink than to avoid 'shouts' or drink lite beer. Principal Components Analysis of the behavioural intention questions led to the development of two factors – *drinking behaviours* and *driving behaviours.* Examination of these factors at the time of the first interview showed that offenders in the UTL group were equally as likely as the Control group to want to change both their driving behaviours and their drinking habits to avoid future drink driving offences.

By the time of the second interview, however, offenders in the UTL group were more likely to indicate that they would change their *driving behaviours* to avoid future drink driving episodes compared to offenders in the Control group. A similar result was not found for *drinking behaviours*, with neither the UTL nor Control groups showing an increase in their intentions to change their drinking habits over the course of the study. For offenders in the UTL group, this suggests that changing their driving behaviours as opposed to their drinking habits became the more desirable option for avoiding future drink driving events. Clearly some behaviours, especially those involving alcohol consumption, have consequences for offenders that make changing those behaviours less desirable.

3.8 Self-report Drinking and Drink Driving Behaviours

3.8.1   Profile of Self-reported Drinking and Drink Driving at Time 1

Self-reported alcohol consumption was assessed at the time of the first interview by asking offenders how often in the last 6 months they would have drunk a glass or more of an alcoholic drink. All offenders reported drinking alcohol within the last 6 months, with responses ranging from 'a few times' to 'everyday of the week'. Figure 10 presents the distribution of offenders across alcohol consumption categories. The

median level of alcohol consumption was '2-3 times a week' with more than three-quarters of the sample drinking alcohol on at least a weekly basis.

Figure 10
Alcohol Consumption Levels in the Last 6 Months
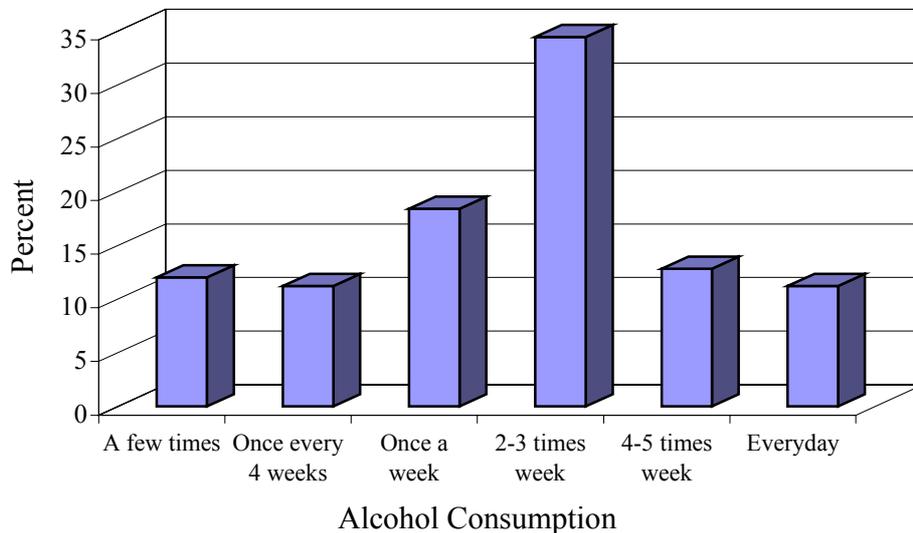
An ANCOVA was performed to examine differences between the UTL and Control groups, with prior drink driving history added as the covariate. No difference was found between the UTL and Control groups for this variable ($F(1,122) = 0.47$). Prior drink driving history did not co-vary with drinking frequency scores ($F(1,122 = 0.81$).

Alcohol consumption over a weekend period was assessed by asking offenders how many alcoholic drinks they consumed last Friday, last Saturday, and last Sunday. Figure 11 shows alcohol consumption levels for each of the three days for the entire sample. The distributions for both Friday and Saturday appear U-shaped with many offenders drinking no alcohol and many offenders drinking more than 10 drinks. 'Last Sunday' however is positively skewed. The median consumption level for Friday was '5-6 drinks', for Saturday it was '3-4 drinks', and for Sunday it was 'no drinks'. Alcohol consumption levels were higher on Fridays than on Sundays ($F(1,120) = 55.82$), while no difference was found between consumption levels on Fridays and Saturdays ($F(1,120) = 1.98$).

Figure 11
Alcohol Consumption Levels over a Weekend Period
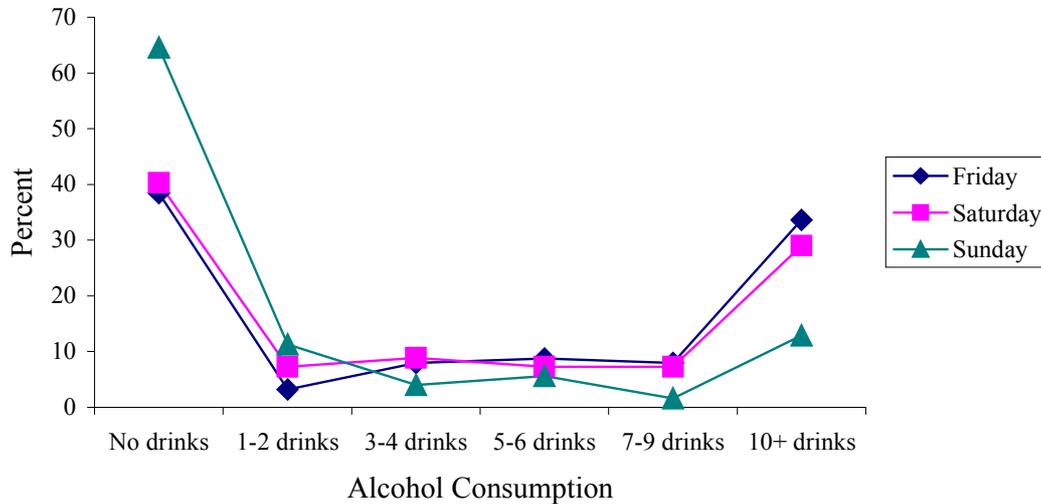
An ANCOVA was performed to examine differences between the UTL and Control groups in alcohol consumption levels for 'last Friday', 'last Saturday', and 'last Sunday'. After controlling for prior drink driving history, no differences were found between the UTL and Control groups for these variables (Friday: $F(1,122) = 0.19$; Saturday: $F(1,121) = 1.50$; Sunday: $F(1,121) = 2.22$). Prior drink driving history did not impact on alcohol consumption levels for "last Friday" ($F(1,122) = 0.01$) or "last Saturday" ($F(1,121) = 0.16$), but did impact on alcohol consumption levels for "last Sunday" ($F(1,121) = 4.50$). Offenders who had prior drink driving convictions (Mean = 1.7; SD = 2.2) were consuming alcohol at a higher level on Sundays than were offenders with no prior drink driving convictions (Mean = 0.9; SD = 1.7).

Offenders were also asked how often in the last 6 months they had driven on a public road after drinking enough alcohol to place them over the limit. Responses ranged from 0 to 50 times, with almost half the offender sample (45.8%) having driven on a public road more than once in the last 6 months when they believed their BAC was above the legal limit. After controlling for prior drink driving history, no significant difference was found between the UTL and Control groups for the number of times offenders had driven on a public road after drinking ($F(1,113) = 3.87$). While not statistically significant, there was a tendency however for offenders in the UTL group (Mean = 5.5; SD = 11.1) to have driven more times after drinking in the last 6 months compared to the Control group (Mean = 2.5; SD = 2.4). Prior drink driving history did not impact on self-reported drink driving levels ($F(1,113) = 0.21$).

3.8.2   Change in Self-reported Drinking and Drink Driving

Change in self-reported behaviours was examined by creating a difference score between Time 1 and Time 2 for each of the behavioural questions. ANCOVAs were performed to examine differences between the UTL and Control groups, with prior drink driving history added as the covariate. Results of these tests are presented in Table 11.

Table 11
Results of the ANCOVAs examining changes over time for the self-reported drinking and drink driving

Item	Group Difference	Mean Difference Score (Standard Deviation)	Prior Drink Driving History
Alcohol consumption last 6 months	$F(1,122) = 2.07$	UTL Group = -0.1 (1.4) Control Group = -0.4 (1.3)	$F(1,122) = 0.05$
Alcohol consumption last:			
Friday	$F(1,122) = 1.02$	UTL Group = 0.4 (2.3) Control Group = 0.1 (2.4)	$F(1,122) = 0.15$
Saturday	$F(1,121) = 1.54$	UTL Group = 0.3 (2.4) Control Group = -0.3 (2.2)	$F(1,121) = 0.46$
Sunday	$F(1,121) = 3.50$	UTL Group = 0.3 (1.8) Control Group = -0.2 (2.0)	$F(1,121) = 3.05$
Drink driving last 6 months	$F(1,113) = 5.42^{*}$	UTL Group = -5.5 (11.1) Control Group = -1.7 (3.2)	$F(1,113) = 0.17$

* p< .03

Results of the ANCOVAs performed on the questions relating to self-reported alcohol consumption showed that, after controlling for prior drink driving history, no difference was found between the UTL and Control groups on difference scores for these variables. The results suggest that any change in the frequency or quantity of alcohol consumed over the course of the study was the same for both the UTL and Control groups. Prior drink driving history did not influence the difference scores for the alcohol consumption variables.

Examination of the change in self-reported drink driving showed a significant difference between the UTL and Control groups on difference scores. The UTL group decreased their reported drink driving by an average of 5.5 times over the course of the previous 6 months compared to a decrease of 1.7 times for the Control group. Prior drink driving history did not influence the level of change seen in self-reported drink driving.

3.8.3   Summary of Self-reported Drinking and Drink Driving

At the time of the first interview alcohol consumption levels among the offender sample were high. Offenders were consuming alcohol both in large quantities and at a high frequency.   However, the level of alcohol consumption seen in the offender sample was similar for both the UTL and Control groups.   Examination of self-reported drink driving at the time of the first interview showed a similar pattern, with offenders again performing this behaviour at a high rate, with no significant difference being found between the UTL and Control groups.

Offenders in the UTL group did not decrease their alcohol consumption over time any more than offenders in the Control group. These results further reflect the finding of Section 3.7.2 which showed no difference between the UTL and Control groups in their intentions to change their drinking habits to avoid future drink driving episodes. However, offenders in the UTL group did show a greater change in self-reported drink driving episodes. These results again appear to mirror the findings of the previous section. In Section 3.7.2, offenders in the UTL group were more likely than those in the Control group to want to change their driving behaviours by the time of the second interview, which corresponds to the greater decrease in self-reported drink driving for this group.

3.9 Alcohol Use Disorders Identification Test

3.9.1   Profile of Risk of Alcohol Problems at Time 1

Risk of alcohol problems was measured by the Alcohol Use Disorders Identification Test (AUDIT). Reliability of the AUDIT was 0.73 (n = 124). Scores on the AUDIT ranged from 2 to 34 out of a possible range of 0 to 40, where high scores on the AUDIT indicate a high risk of alcohol problems. The mean AUDIT score for the total offender sample was 12.5 (SD = 6.3).

An ANCOVA was performed on the AUDIT scores to determine if any differences existed between the UTL and Control groups. After adjusting scores on the AUDIT to take into consideration prior drink driving history, no difference was found between the UTL and Control groups ($F(1,121) = 2.51$). The mean AUDIT score for the UTL group was 13.6 (SD = 6.3) and the mean AUDIT score for the Control group was 11.5 (SD = 6.0). Prior drink driving history was not found to co-vary with AUDIT scores ($F(1,121) = 2.69$).

AUDIT scores for the UTL and Control groups were recoded into one of three levels of risk of alcohol problems. Table 12 shows the percent of offenders in each category. While offenders in the UTL group appeared more likely to be at risk of alcohol dependence than offenders in the Control group, this difference was not significant ($\chi^2(2) = 4.84$). Approximately 82% of the total sample were consuming alcohol at a rate consistent with a moderate-to-high risk of alcohol problems (ie harmful consumption or alcohol dependent).

Table 12
Distribution of offenders across three levels of risk of alcohol problems

AUDIT Risk Group	UTL Group[a] (%)	Control Group[a] (%)
No or low risk of harmful consumption	11.3	24.2
Risk of harmful consumption	37.1	40.3
Risk of alcohol dependence	51.6	35.5

[a] n = 62

3.9.2   Change in Risk of Alcohol Problems

To compare changes in AUDIT scores over time for the UTL and Control groups, difference scores were created for each offender. An ANCOVA was then performed on the difference scores, with prior drink driving history added as the covariate. Prior drink driving history was not found to influence the AUDIT difference scores ($F(1,121) = 0.13$). Results of the ANCOVA showed no difference between the UTL and Control groups in their level of change in AUDIT scores ($F(1,121) = 0.57$). Over the course of the study, the AUDIT scores for the UTL group decreased by an average of 1.6 points (SD = 5.8) while the AUDIT scores for the Control group decreased by an average of 0.8 points (SD = 4.8), showing a similar level of change between the two groups.

Table 13 shows the distribution of offenders across the three AUDIT risk categories for both the first and second interviews. As this table shows, few offenders in both the UTL and Control groups decreased their risk of alcohol dependence over the course of the study.

Table 13
Comparison of AUDIT risk groups for both the first and second interviews

AUDIT Risk Group	UTL Group[a] (%)		Control Group[a] (%)	
	Time 1	Time 2	Time 1	Time 2
No or low risk of harmful consumption	11.3	19.4	24.2	28.6
Risk of harmful consumption	37.1	35.5	40.3	41.3
Risk of alcohol dependence	51.6	45.2	35.5	30.2

[a] n = 62

3.9.3 Summary of Risk of Alcohol Problems

Many offenders at the time of the first interview showed a high risk of developing alcohol problems. While not significant, there was also a tendency toward offenders in the UTL group being at greater risk of developing alcohol problems than offenders in the Control group. When change in the risk of alcohol problems over time was assessed, there again was no difference between the UTL and Control groups in the amount of change seen. These results appear to reflect those seen in Section 3.7.2 where the UTL and Control groups did not differ in their intentions to change their drinking to avoid future drink driving episodes, over the course of the study.

3.10 Readiness to Change Scale

3.10.1 Profile of Offenders' Readiness to Change at Time 1

Reliability of the Readiness to Change scale was comparatively low at 0.53 (n = 125). The distribution of offenders in both the UTL and Control groups across the three stages of change is presented in Table 14. Due to the ordinal nature of this variable, differences between the UTL and Control groups were assessed using a Mantel-Haenszel Chi-square test through the SAS statistical program. The test also allowed the effects of prior drink driving history to be controlled. The results of the Mantel-Haenszel Chi-square test were significant ($\chi^2(1) = 5.59$), with offenders in the UTL group more likely to be in the Action stage of change compared to offenders in the Control group. The results suggest that offenders in the UTL group were more aware of their alcohol problem and therefore more likely to report taking action to change it.

3.10.2 Change in Offenders' Readiness to Change

To examine the change in offenders' readiness to change over time, a difference score was created for each offender. An ANCOVA was then performed on the difference scores to determine if one group changed more over time than the other. Prior drink driving history was added as the covariate. Results of the ANCOVA showed no difference between the UTL and Control groups in difference scores (F(1,122) = 3.75). In addition, prior drink driving history was not found to co-vary with the readiness to change difference scores (F(1,122) = 0.30).

Whilst there was no difference between the UTL and Control groups in the change scores for the Readiness to Change Scale, it is interesting to examine the distribution of offenders across the three stages for both the first and second interviews. This is depicted in Table 14. As can be seen from this table, the majority of change among offenders in the UTL group occurred between the Precontemplation Stage and the Contemplation Stage. It appeared that a ceiling had been reached for offenders in the UTL group in terms of their movement into the Action Stage of change. For the offenders in the Control group however, the biggest change in the distribution of offenders occurred between the Precontemplation and Action Stages.

Table 14
Comparison of readiness to change stages for both the first and second interviews

Stage of Change	UTL Group[a] (%)		Control Group[b] (%)	
	Time 1	Time 2	Time 1	Time 2
Precontemplation Stage	32.3	19.4	42.9	19.0
Contemplation Stage	19.4	32.3	34.9	36.5
Action Stage	48.4	48.4	22.2	44.4

[a] n = 62; [b] n = 63

3.10.3 Summary of Offenders' Readiness to Change

At the time of the first interview, nearly half the offenders from the UTL group were in the Action Stage of change compared to less than one-quarter of the Control group, indicating that many of these offenders had recognised their alcohol problems and were in the process of changing them. One possible reason for this finding is that the UTL program attracts offenders who are willing to change their alcohol problems, and the program itself may be seen as a possible step in the change process.

However, when examining the change in offenders' readiness to change over time, no difference was found between the UTL and Control groups in change scores. Offenders in both the UTL and Control groups had moved through the stages of change to the same degree over the course of the study. The UTL program did not appear to impact on the readiness to change of offenders.

4 Summary of Change in Lifestyle Characteristics of Offenders

Offenders who participated in this study were young (mean age of 31 years), mostly male, single and first time offenders, with a low education level. Many offenders were unemployed and receiving government assistance at the time of the initial interview. Of the offenders who were employed, they were mostly employed in full-time positions in the trades or labourer fields. The results reported here reflect the findings of other studies examining the profile of drink driving offenders (eg Hedlund, 1995; Nickel, 1990). They suggest that the profile of rural Queensland drink drivers appearing before the court is similar to the profile of drink drivers in other countries.

While no difference was found between the UTL and Control groups on the demographic variables described previously, a difference was found between the two groups for the number of offenders who had been convicted of a drink driving offence in the last 5 years. Whilst the numbers were small, offenders in the UTL group were more likely to have been convicted of a prior drink driving offence. This finding may have resulted from the greater incentive for multiple offenders to undertake the program given the likelihood of having their fine waived or reduced in lieu of the course fees. This pre-existing difference between the UTL and Control groups was considered as a possible confounder in all future analyses and its effects were therefore controlled. The outcome evaluation of the UTL program (Siskind et al., In Press) involved a much higher proportion of recidivist drink drivers and in the outcome study recidivism was shown to have a significant influence on the program effectiveness.

The socio-demographic characteristics of the offender sample did not appear to change over time. Offenders' marital status, employment and income status remained stable over the course of the study and as such, change in these socio-demographic variables cannot be considered as contributing to or confounding the effectiveness of the UTL drink driving rehabilitation program.

The level of mental health and social support seen in the offender sample was high, although there did not appear to be any difference between the UTL and Control groups on these variables at the time of the initial interview. The high level of social support reported by the offender sample may result from the offenders being involved in a subculture that accepts drink driving (Macdonald & Dooley, 1993). That is, peers of the drink driver may be highly encouraging of that offender since the peers themselves are likely to hold similar drink driving values (Thurman, Jackson & Zhao, 1993). However, this explanation is unlikely to hold true for offenders with prior drink driving convictions. In the current study, not only did these offenders have poorer mental health, but they also reported lower levels of social support from friends and others.

While it was expected that the UTL program would have a positive impact on the level of mental health and social support experienced by offenders, this result was not found. This may be due in part to the already high level of mental health and social support seen among first offenders who made up the majority of this sample.

The offender sample demonstrated fairly accurate knowledge of legal BAC limits in the initial interview, especially the legal BAC limit for an open licensed driver. However, their knowledge of safe alcohol consumption levels for driving was poor. This effect was more marked among offenders in the Control group where approximately three-quarters of the sample could not correctly identify the number of drinks that would place an adult man over the legal BAC limit. Offenders further demonstrated poor knowledge of the effects of alcohol on the body when some incorrectly agreed that factors such as exercising and vomiting would reduce their BAC level.

The UTL group had a significantly higher level of knowledge than the Control group at the time of the first interview. Over the course of the study, both the UTL and Control groups increased their level of knowledge, however, the extent of the increase in offenders' knowledge was similar for both the UTL and Control groups. The UTL group continued to have higher knowledge scores than the Control group at the time of the second interview. It is possible that the process of being charged and subsequently convicted for a drink driving offence may itself have resulted in an increase in knowledge among all offenders to a level where it was not possible to see a significant difference in the increase among the UTL group compared with the Control group. The results suggest that UTL program did not appear to have a substantial impact on offenders' knowledge.

Some offenders displayed poor attitudes toward drink driving at the time of the initial interview, believing that drink driving is common in their community and that the dangers of drink driving are overrated. Some offenders also indicated a level of peer acceptance of drink driving and a lack of peer censure for these behaviours. Further, while significantly more offenders in the UTL group believed that they would be picked up for a breath test if they drove when their BAC was above the legal limit, approximately half the total sample indicated that they would still drive after consuming enough alcohol to place them over the legal limit. These findings may result in part from the acceptance of drink driving behaviours among the peers of the offender, where more acceptance means a greater willingness to perform those behaviours. The results may also be due to the poor knowledge seen among the offender sample during the initial interview. That is, offenders who responded to the item that they would still drive after drinking a quantity of alcohol to place them over the limit may have done so because they were not aware that the amount of alcohol specified in the question *would* actually place them over the legal BAC limit.

Over the course of the study, no difference was found between the UTL and Control groups in the level of change in their attitudes toward drink driving. Whilst it appeared that the UTL program did not impact on the attitudes of offenders who undertook the program, this may have resulted from the attitudes themselves being significantly entrenched within the drink driving population. Attendance at a drink driving rehabilitation program, in which offenders are surrounded by other drink driving offenders, may have done more to reaffirm the beliefs and attitudes than to dispel them. However, some research suggests that drink driving rehabilitation programs can have a positive impact on attitudes (Wells-Parker et al., 1995), although this finding is less widely seen than changes in drink driving behaviours.

An examination of offenders' intentions to change their behaviours at the time of the first interview, indicated that the UTL and Control groups were equally as likely to indicate that they would change their driving behaviours and their drinking habits to avoid future drink driving episodes. However, by the time of the second interview, offenders in the UTL group were more likely than offenders in the Control group to indicate that they would change their driving behaviours to prevent future drink driving episodes. This relationship was not found for drinking behaviours with both the UTL and Control groups showing very little increase in their intentions to change their drinking habits. Clearly, changing drinking habits has consequences for offenders that makes changing those behaviours less desirable.

During the initial interview, offenders reported a high level of drinking both in terms of frequency and quantity. Many offenders indicated drinking on at least a weekly basis with the quantity of alcohol consumed over a weekend period (especially on Fridays) being high. Whilst the self-reported level of alcohol consumption did not change over the course of the study, the level of self-reported drink driving did substantially decrease, especially for offenders in the UTL group. Initially, offenders reported a high level of drink driving, with no difference being found between the UTL and Control groups. However, by the time of the second interview, offenders in the UTL group had significantly decreased their reported level of drink driving to below that of the Control group.

The results suggest that while offenders in the UTL group did reduce their level of self-reported drink driving, this was unlikely to have resulted from a reduction in alcohol consumption. Offenders in the Control group showed a similar level of change in alcohol consumption over the course of the study, but did not have the same corresponding decrease in self-reported drink driving as the UTL group. These results also mirror the findings of the behavioural intentions questions where the UTL and Control groups showed very little change in their intentions to alter their drinking habits over the course of the study. However, after completion of the program the UTL group did show stronger intentions to change their driving behaviours to avoid future drink driving episodes than the control group. The changed intentions of offenders in the UTL group to reduce their driving behaviours to avoid another drink driving offence corresponds to the decrease in reported drink driving by offenders in this group.

While the behavioural measures described above were self-report indicators of alcohol consumption and drink driving, more formal measures of alcohol consumption and risk of alcohol problems were also used in the interview. An examination of these scales showed no decrease in the risk of alcohol problems over the course of the study. Offenders' scores on the AUDIT indicated that over 80% of the offender sample were consuming alcohol at a rate consistent with a moderate-to-high risk of alcohol problems at the time of the first interview. Many offenders were also not aware that they had an alcohol problem with over one-third of the sample being in the Precontemplation stage of change. It is interesting to note however, that while offenders in the UTL group were equally as likely to be alcohol dependent as offenders in the Control group, they were more likely to be in the Action stage of change at the time of the first interview. That is, nearly half the offenders in the UTL

group were willing to recognise their alcohol problem and take action to change it at the time of the first interview. It is possible that after being breath tested and charged with drink driving, some offenders became more susceptible to believing they have an alcohol problem and therefore more ready to change it. As one step in the process toward behaviour change, those offenders may have undertaken the UTL program.

Over the course of the study, offenders in the UTL group did not decrease their risk of alcohol consumption nor did they increase their readiness to change their alcohol problems relative to offenders in the Control group. These findings again reflect those described previously, where offenders in the UTL group were no more willing to change their drinking behaviours to avoid future drink driving episodes than offenders in the Control group. Clearly, alcohol consumption behaviours and patterns are difficult to change among this sample of drink drivers. One possible explanation for these findings can be found by understanding the Prochaska and DiClemente (1986) model of change on which the Readiness to Change questionnaire was based. This model describes the stages through which a person must pass in order to resolve an addictive problem. It therefore follows that individuals who are in the Precontemplation stage of change may require a different treatment approach to those who are in the Action stage of change (Heather & Rollnick, 1993). The UTL program was specifically not designed to reduce alcohol consumption but to change the association of drinking with driving.

5 Conclusion

The present study was designed to examine the impact of completing the "Under the Limit" drink driving rehabilitation program on selected aspects of offenders' lifestyles. The study involved recruiting two small samples of offenders at their court appearance and following them over a nine-month period during which one group completed the UTL program and the other functioned as a non-randomly assigned control group. It was intended to test one of the research program hypotheses that reduction in recidivist drink driving would be associated with positive changes in the lifestyles of offenders.

The present study was intended to complement the major outcome evaluation of the UTL program that compared the recidivism rates for offenders' completing the program during the Central Queensland trial with those of a control group matched through the courts (Siskind et al., In Press). The outcome evaluation found that the UTL program had a positive impact in reducing recidivism among repeat or high-risk offenders (Siskind et al., In Press) but it did not produce any positive change in first offenders. In the present study, the majority of the respondents in both the UTL and Control groups were first offenders and the findings of this study have specific relevance to understanding the findings of the outcome evaluation for this group.

In the current study, it was found that there were differences in the first interview between recidivist and first offenders and also between those who elected to do the UTL program and those who did not participate in the program. As a group, those who decided to do the UTL program were more likely to believe that they would be picked up for a breath test and to have higher levels of aggregate drink driving knowledge than those who did not elect to do the program. Recidivist offenders reported lower levels of mental health and social support than did the first time offenders. They were also more likely to elect to complete the UTL program. On all other measures of lifestyle, including motivation to change drinking and drink driving behaviours, both groups of offenders were essentially the same before completing the program.

At the second interview nine months later, there were no differences in lifestyle measures, knowledge, attitudes or reported drinking between the two groups. There were however changes in reported drink driving. Offenders who completed the program were significantly more likely to report intending to avoid drink driving and to have engaged in fewer instances of drink driving over the previous six months than persons in the Control group. This effect was not mediated by previous offence history.

There are two additional interesting issues raised by this study. The program specifically and overtly targeted the separation of drinking and driving as a key issue to both participants and trainers. The results suggest that the message was responded to by a change in driving rather than drinking behaviours. Whilst this was the direct focus of the program it is interesting to learn that for offenders, changing driving behaviours was the preferred option. That is, offenders in this study appeared more

accepting of alternatives to drink driving that involved a change in their driving behaviours rather than their drinking habits. It provides support for the possible acceptance of ignition interlock devices by these offenders, especially if the devices were available and seen as a practical and non-stigmatic aid to avoiding re-offending.

The second issue relates to the impact of court appearance and conviction on drink driving offenders. The present analysis was concerned with elucidating program effects that occurred in addition to the changes in behaviour and attitudes stimulated by the court hearing. It will be possible to re-examine the data in future analyses to determine the changes that occurred in the nine months after the court appearance for those offenders who had no subsequent intervention, thereby highlighting the impact of the court hearing on the relevant variables. If data matching with traffic records can be achieved it will also be possible to examine whether characteristics that predict a second offence can be identified at the first offence stage.

References

Berwick, D.M., Murphy, J.M., Goldman, P.A., Ware, J.E., Barsky, A.J., & Weinstein, M.C. (1991). Performance of a five-item mental health screening test. **Medical Care, 29**(2), 169-176.

Castles, I. (1991). **1991 census directory of classifications: Census of population and housing** (Catalogue No. 2904.0). Canberra, Australia: Australian Bureau of Statistics.

Cohen, S., Mermelstein, R., Kamarck, R., & Hoberman, H. (1985). Measuring the functional components of social support. In I.G. Sarason and B.R. Sarason (Eds.), **Social support: Theory, research and application.** The Hague, Holland: Martinus Nijhoff.

Ferguson, M., Schonfeld, C., & Sheehan, M. (1999). **Drink driving offenders in a rural community: A profile of drink driving offenders in regional Queensland** (ATSB Monograph CR183). Canberra, Australia: Australian Transport Safety Bureau.

Fitzpatrick, J.L. (1992). Problems in the evaluation of treatment programs for drunk drivers: Goals and outcomes. **Journal of Drug Issues, 22**(1), 155-167.

Hall, W. (1997). The role of legal coercion in the treatment of offenders with alcohol and heroin problems. **The Australian and New Zealand Journal of Criminology, 30**(2), 103-120.

Heather, N. & Rollnick, S. (1993). **Readiness to change questionnaire: User's manual – revised version** (Technical Report No. 19). Sydney, Australia: National Drug and Alcohol Research Centre.

Heather, N., Rollnick, S., & Bell, A. (1993). Predictive validity of the readiness to change questionnaire. **Addiction, 88**(12), 1667-1677.

Hedlund, J. (1995). Who is the persistent drinking driver? Part I: USA. **Transportation Research Circular, 437**, 16-20.

Macdonald, S. & Dooley, S. (1993). A case-control study of driving-while-impaired offenders. **Drug and Alcohol Dependence, 33**(1), 61-71.

Nickel, W.R. (1990). A five-year follow-up of treatment for DWI recidivists in the Federal Republic of Germany. **Alcohol, Drugs and Driving, 6**(3-4), 119-132.

O'Reilly, B.K. (1995). The social support appraisals scale: Construct validation for psychiatric inpatients. **Journal of Clinical Psychology, 51**(1), 37-42.

Popkin, C.L. (1994). The deterrent effect of education on DWI recidivism. **Alcohol, Drugs and Driving, 10** (3-4), 287-294.

Prochaska, J.O., & DiClemente, C.C. (1986). Toward a comprehensive model of change. In W.R. Miller and N. Heather (Eds.), **Treating addictive behaviors: Processes of change**. New York: Plenum.

Rollnick, S., Heather, N., Gold, R., & Hall, W. (1992). Development of a short 'readiness to change questionnaire' for use in brief, opportunistic interventions among excessive drinkers. **British Journal of Addiction, 87**(5), 743-754.

Saunders, J.B., Aasland, O.G., Babor, T.F., de la Fuente, J.R., & Grant, M. (1993). Development of the alcohol use disorders identification test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption – II. **Addiction, 88**, 791-804.

Sheehan, M. (1994). **Alcohol controls and drink-driving: The social context** (FORS Monograph CR 142). Canberra, Australia: AGPS.

Sheehan, M., Schonfeld, C., & Davey, J. (1995). **A community based prevention/rehabilitation programme for drink drivers in a rural region: "Under the Limit"** (FORS Monograph CR 156). Canberra, Australia: AGPS.

Sheehan, M., Schonfeld, C., Siskind, V., & Baum, S. (In Press). **Attitudes and knowledge of drink driving in a rural context in the 1990's** (ATSB Monograph Series). Canberra, Australia: Australian Transport Safety Bureau.

Siskind, V. (1996). Does license disqualification reduce reoffence rates? **Accident Analysis and Prevention, 28** (4), 519-524.

Siskind, V., Sheehan, M., Schonfeld, C., & Ferguson, M. (In Press). **The impact of the Under the Limit drink driving rehabilitation program on traffic safety** (ATSB Monograph Series). Canberra, Australia: Australian Transport Safety Bureau.

SPSS Inc. (1998). **SPSS for windows: Version 8.0.1.** Chicago, IL: Author

Thurman, Q., Jackson, S., & Zhao, J. (1993). Drunk-driving research and innovation: A factorial survey study of decisions to drink and drive. **Social Science Research, 22**(3), 245-264.

Vaux, A. (1988). **Social support: Theory, research, and intervention.** NY: Praeger.

Victorian Social Development Committee. (1988). **Drink-driver education and treatment: Second and final report upon the inquiry into the management of drink-drivers apprehended with high blood alcohol levels.** Melbourne, Australia: Parliament of Victoria.

Ware, J.E., Gandek, B., & The IQOLA Project Group. (1994). The SF-36 health survey: Development and use in mental health research and the IQOLA project. **International Journal of Mental Health, 23**(2), 49-73.

Watson, B., Fraine, G., & Mitchell, L. (1995). Enhancing the effectiveness of RBT in Queensland. Pater prepared for the **Prevention of Alcohol Related Road Crashes: Social and Legal Approaches Conference 1994** (pp. 31-49). Brisbane, Australia: School of Justice Administration, Griffith University.

Wells-Parker, E., Bangert-Drowns, R., McMillen, R., & Williams, M. (1995). Final results from a meta-analysis of remedial interventions with drink/drive offenders. **Addiction, 90**, 907-926.

Appendix : **Summary of Scales Employed in the Interview Schedule**

Mental Health Inventory (Ware et al, 1994): The MHI5 is a 5-item measure scored on a 5-point scale. Negative items are reversed and the sum of the five items produces the scale score. Scores for the scale can range from 0 to 20, whereby a '0' indicates high mental health and a '20' indicates low mental health. The MHI5 has been used to detect depression among a general population sample and found to perform equally as well as the General Health Questionnaire and a longer 18-item version of the Mental Health Inventory (Berwick et al., 1991).

Social Support Appraisals Scale (Vaux, 1988): There are three subscales within the SSA: the 'Family' Subscale (8 items); the 'Friends' Subscale (7 items); and the 'Others' Subscale (8 items). Along with these three measures, a total scale score can be calculated. Items within the SSA are scored on a 4-point scale with negative items being reversed before summing to form the respective scales. Both the Family and Others Subscales have a possible range of 8 to 32; the Friends Subscale has a possible range of 7 to 28; and the total scale score can range from 23 to 92. A low score indicates high social support and a high score indicates low social support. The SSA has been shown to correlate with other measures of social support, for example, the Perceived Social Support scale (r = .85), the Social Support Questionnaire (r = .46 to .57) and the Inventory of Socially Supportive Behaviours (r = .57; O'Reilly, 1995).

Interpersonal Support Evaluation List (Cohen et al., 1985): Four subscale scores (Self-esteem Support, Tangible Support, Belonging Support, Appraisal Support) and a total scale score can be calculated for this measure and are used to examine the functional aspects of social support. Items in the Belonging and Appraisal Subscales were found to be inappropriate for the sample being examined, so only the Self-esteem and Tangible Support Subscales were retained in the interview schedule. These subscales are 10-item measures scores on a 4-point scale. Scores can range from 0 to 30 and are obtained by reversing negative items and summing the item values. A '0' indicates low social support and a '30' indicated high social support. The Self-esteem Support Subscale has been shown to correlate with the Rosenberg Self-esteem Scale (r = .74; Cohen et al., 1985). A negative relationship between the ISEL and both the Beck Depression Inventory and measures of psychiatric symptomology have also been found (Cohen et al., 1985).

Alcohol use Disorders Identification Test (Saunders et al., 1993): Items within the AUDIT are scored on a 5-point scale and summed to form the AUDIT score (range 0 to 40). Scores are then re-coded into three levels of risk: no or low risk of harmful consumption, risk of harmful consumption, and risk of alcohol dependence.

Readiness to Change Scale (Heather & Rollnick, 1993): The Readiness to Change measure yields three scale scores and the scale with the highest score it taken as the person's readiness to change. The scales are Precontemplation, Contemplation, and Action and represent the stages in the Prochaska and DiClemente model of change (Heather, Rollnick, & Bell, 1993). An individual who falls into the Precontemplation group generally is not aware of their drinking problem and is taking no action to change it. An individual classified as Contemplation generally has accepted the presence of an alcohol problem, but once again is not in the process of changing their drinking habits. Finally, an individual who falls into the Action category has both

accepted his/her alcohol problem and is taking action to change it. The Readiness to Change questionnaire is associated with measures of reported drinking behaviour (Rollnick, Heather, Gold, & Hall, 1992) and appears to predict changes in drinking behaviour over time (Heather et al., 1993).